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TOPICAL ANALYSIS

OF

DESCRIPTIVE GEOGRAPHY,

UNITED STATES HISTORY,

PRACTICAL ARITHMETIC

PHYSIOLOGY AND HYGIENE,

PHYSICAL GEOGRAPHY,

ENGLISH GRAMMAR, AND PENMANSHIP,

FOR USE IN

COMMON SCHOOLS, NORMAL SCHOOLS,

AND

TEACHERS' INSTITUTES.

Third Edition, Revised and Enlarged.

By GEORGE S. WEDGWOOD.

CHICAGO, ILL.:
S. S. WINCHELL & CO., PUBLISHERS.
1870.

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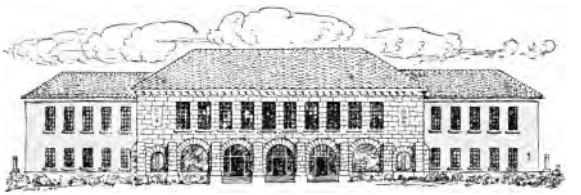

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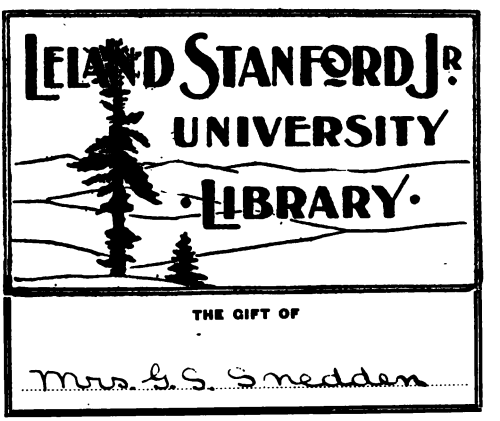

S. D. PALMER,
BOOKS,
STATIONERY
NOTIONS.
Marshalltown, Ia.

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PREFACE.

THE object aimed at in the preparation of this book was to place in the hands of the pupils a synopsis of the principal topics to which they should pay special attention in the preparation of their lessons; and to have these topics so connected that the lessons may be easily learned and retained.

The necessity for such a plan has been long apparent from the many failures made in teaching these branches in many of our schools.

Take, for instance, the study of History. How many teachers have labored hard and long trying to "get through the book" with a class, only to find on examination that very few, if any, of the pupils could relate, either orally or in writing, in language not borrowed from the text-book (and few even in that) the history of any important period or campaign.

Why is this, if not because too much time has been spent in memorizing *unimportant* matter, and that, too, so disconnected that the first part of the story was forgotten before the last was learned?

Place the text-book *alone* in the hands of the teacher, and in too many cases questions from the margins of the pages are "shot at" the class and answers as quickly returned; and on examination it is found that the pupils, and perhaps the teacher, are using language the meaning of much of which they have not the slightest conception.

Take the text-book away from the scholars, *and teacher too*, during the time of recitation; assign the lessons by topics; let the pupils use the text-books for reference in preparing their

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lessons, and require the recitations to be both oral and written, and it will not be long before the pupils will find it easier to use language with which they are acquainted, and to have the facts connected in the order in which they occurred.

There will be no difficulty in remembering all the dates that should be remembered; and teachers will soon be ashamed to come before their classes unprepared to lead them rather than be dragged along by them.

The same may be truly said of Geography. There is probably more time wasted in the study of Geography than there is spent profitably. We need more written work, more map-drawing, more learning where *important* cities, rivers, railroads, mountains, forests, seas, etc., are, and *why they are important;* and less searching for minor details and less important places that have nothing about them to recommend them to the mind of the child.

Good wall maps with text-books for reference in preparing the lessons, and an analysis of the more important topics from which to assign them seem more in harmony with the limited time in which a large majority of our children must procure their knowledge of Geography.

Whatever advantage is gained by teaching History or Geography topically is equally applicable to Physiology and Arithmetic. The plan of teaching by topics is not new; it has been practiced in our best schools for years.

In placing the topics on the board by the teacher, and copying them by the pupils, much valuable time is lost that may be saved by placing this work in their hands and assigning the lessons from it.

With the Topical Analysis in the hands of the pupils, a non-uniformity of text-books is a benefit, rather than a disadvantage, to the class, and is certainly a great saving to the patrons of our schools.

Hoping that this work will find its proper place in the school-room, it is respectfully submitted.

G. S. W.

TOPICAL ANALYSIS.

GEOGRAPHY.

PART I.

DIRECTION DISTANCE, AND AREA.

1. DIRECTION.
   1. *Use.*
   2. *Names.*
      - *a.* North.
      - *b.* East.
      - *c.* South.
      - *d.* West.
      - *e.* N. E.
      - *f.* S. E.
      - *g.* S. W.
      - *h.* N. W.

   Drill thoroughly in direction until each pupil can point accurately and promptly to all the points of the compass.

2 DISTANCE.
   1. *Inches.*
   2. *Feet.*
   3. *Rods.*
   4. *Miles.*
   5. *Fractional parts of a mile.*

3. AREA.
   1. *Square inches.*
   2. " *feet.*
   3. " *rods.*
   4. " *miles.*
   5. *Acres.*

   Drill thoroughly in distance by actual measurement of lines, boards, floor, etc., and by comparing things measured with things which the pupils have not measured, until they are good judges of distance and area.

LESSONS ABOUT HOME.

1. SCHOOL-HOUSE.
   1. *Shape.*
      a. Tell the shape orally.
      b. Show the shape by drawing on slates and blackboard.
   2. *Position and Location.*
      a. Tell orally the position and location of seats, desks, stove, etc., in the school-room.
      b. Locate them in drawings.
   3. *Map.*
      a. Definition.
      b. Draw maps of school-room, school-house and grounds, dwelling houses, farms, etc.
2. CITY OR TOWNSHIP.
   1. Draw map of city or township and locate streets, prominent buildings (such as depot, banks, courthouse, school houses, churches, warehouses, mills, etc.)
   2. Give lessons on the uses and means of carrying on the different kinds of business of each.
   3. Divide township into sections and quarter-sections.
   4. Define things shown on the maps.
3. COUNTY.
   1. Draw map of county giving numbers and ranges of townships.
   2. Locate the principal cities, villages, railroads, rivers, etc.
   3. Define things shown on map.
   4. Name the county officers and tell the general duties of each.
4. STATE (where taught).
   1. *Map.*
      a. Draw map of the state and locate the railroads, rivers, mountains, lakes, watersheds, valleys, and important cities.
      b. Define things shown on the map.
   2. *Position.*

a. Boundaries.
b. Area.

3. *Surface.*
   a. Elevations. *b.* Drainage.
4. *Products.*
   a. Natural. *b.* Cultivated. *c.* Quality of the soil.
5. *Animals.*
   a. Domestic. *b.* Wild.
6. *Public Buildings.*
   a. Where located. *b.* Uses and how controlled.
7. *Government.*
   a. State officers and their duties.
   b. Tenure of office and how changed.
   c. How laws are made.
8. *History.*
   a. Of state. *b.* Of county. *c.* Of city or township.

GEOGRAPHICAL DEFINITIONS.

(*Map of the World.*)

1. CONTINENTS.
2. COASTS.
3. OCEANS.
4. ISLANDS.

Define each and point to all shown on the map of the hemispheres.

5. COAST LANDS.
   1. Peninsulas.
   2. Isthmuses.
   3. Capes.
   4. Promontories.
6. COAST WATERS.
   1. Seas.
   2. Gulfs.
   3. Bays.
   4. Straits.

a. Define each.

b. Point to them on the map.

c. Draw map illustrating each.

7. SURFACE OF THE LAND.

1. Valleys.
2. Plains.
3. Hills.
4. Mountains.
5. Table Lands.
6. Marshes.
7. Deserts.
8. Watersheds.

a. Define.
b. Illustrate.
c. How represented on the map.
d. Uses.

8. WATERS UPON THE LAND.

1. Springs.
   a. Define. *b.* How formed.
2. Rivers.
   a. Define. *b.* How formed. *c.* Right and left banks defined. *d.* Source. *e.* Mouth. *f.* Basin. *g.* Bed. *h.* Falls. *i.* Uses.
3. River Systems.
   a. Define. *b.* Formation. *c.* Use. *d.* Show them on map and name them.
4. Lakes.
   a. Define. *b.* Formation. *c.* Head. *d.* Foot. *e.* Shore. *f.* Uses.
5. Canals.
   a. Define. *b.* How made. *c.* Uses. *d.* Compare with railroads.

9. *Occupations of Man.*

1. Farming.
2. Lumbering.
3. Mining.
4. Quarrying.
5. Manufacturing.
6. Commerce.
7. Professions.

a. Define.
b. Object of.
c. Nature of the country where each is best adapted.

PART II.

LESSONS ON THE EARTH.

(Use the Globe if possible.)

1. *Its Shape.*
   1. How proven.
2. *Its relation to other planets.*
3. *Its size.*
   1. Diameter. 2. Circumference.
4. *Lines and Circles upon the Earth.*
   1. Axis.
   2. Poles.
   3. Equator.
   4. Parallels.
   5. Meridians.

   a. Define.
   b Illustrate
   c. Draw map of hemispheres showing each.
5. *Circles Divided.*
   1. Degrees.
      a. Number. *b.* Size.
6. *Measurement of the Earth.*
   1. Latitude.
   2. Longitude.

   a. Define. *b.* How reckoned.
   c. Examples.
7. *Tropics.*
   1. Cancer.
   2. Capricorn.
8. *Polar Circles.*
   1. Arctic.
   2. Antarctic.

   a. Location. *b.* Uses.
   c. Distance from the equator.
   d. Show them on the map.
9. *Zones.*
   1. Torrid.
   2. Temperate.
   3. Frigid.

   a. Number. *b.* Define.
   c. Boundaries. *d.* Width of each.
   e. Climate. *f.* Vegetation.
   g. Animals. *h.* People.
10. *Movements of the Earth.*
    1. Diurnal.
    2. Annual.

    a. Definition. *b.* Effect.
    c. Illustrate with the globe.
11. *Distribution of Land and Water.*
    1. Land.
    2. Water.

    a. Ratio.
    b. Location

12. *Hemispheres.*
    1. Eastern.
    2. Western.

    } *a.* Divisions of land.
    b. Washed by what water.

MAP OF NORTH AMERICA.

1. *Position.*
    1. Divisions.
    2. Boundaries.
    3. Bays and Peninsulas.
    4. Islands.
2. *Surface.*
    1. Mountains and other Highlands.
        a. Position. *b.* Extent.
    2. Rivers and Lakes.
        a. Name. *b.* Locate.
3. *Climate and Vegetation.*
    1. Climate of each Zone.
    2. Chief products of each Zone.
4. *Political Divisions.*
    1. United States.
    2. British America.
    3. Mexico.
    4. Central America.
    5. West Indies.
    6. Danish America.

    } *a.* Boundaries.
    b. Area.
    c. Form of government.
5. *Map.*
    1. Draw a map of North America from memory.

MAP OF UNITED STATES.

1. *Position and Outline.*
    1. Boundaries.
    2. Area (compared with that of North America).
    3. Population (compared with that of North America).
    4. Indentation of coasts.

2. *Surface.*
   1. Elevations.
      a. Mountain systems.
      b. Other highlands.
3. *Rivers.*
   1. Mississippi.
   2. Missouri.
   3. Ohio.
   4. Hudson.
   5. Colorado.
   6. Rio Grande.
   7. Columbia.

   a. Source.
   b. Course.
   c. Drains what.
   d. Empties where.
   e. Tributaries.
   f. Important cities on.
4. *Islands.*
   1. Location.
   2. Of what importance.
5. *Climate.*
   1. Summers.
   2. Winters.
6. *Vegetation and Soil.*
   1. Natural.
   2. Cultivated.
   3. Nature of soil in different parts.
7. *Inhabitants.*
   1. Number and nationality.
   2. Occupations.
   3. Education.
   4. Religions.
8. *Government.*
   1. Form of.
   2. Departments.
   3. Relation of states to United States.
9. *States Divided into Groups.*
   1. New England.
   2. Middle.
   3. South Eastern.
   4. Central.
   5. Western.

   a. Names of states of each group.
   b. Names of territories.
   c. How territories are formed into states.
10. *Territories.*

11. *Map.*

1. Draw map of United States from memory, and locate the principal rivers, mountain ranges, lakes, gulfs, bays, peninsulas, and cities.

STATES AND TERRITORIES OF UNITED STATES.

1. *States.*

1. Maine.
2. New Hampshire.
3. Vermont.
4. Massachusetts.
5. Rhode Island.
6. Connecticut.
7. New York.
8. Pennsylvania.
9. New Jersey.
10. Delaware.
11. Maryland.
12. Virginia.
13. West Virginia.
14. North Carolina.
15. South Carolina.
16. Georgia.
17. Alabama.
18. Florida.
19. Ohio.
20. Indiana.
21. Illinois.
22. Michigan.
23. Wisconsin.
24. Kentucky.
25. Missouri.
26. Iowa.
27. Minnesota.
28. Nebraska.
29. Kansas.
30. Tennessee.
31. Mississippi.
32. Louisiana.

1. Position.
   - *a.* Boundaries.
   - *b.* Area (compared with the state where taught).
   - *c.* Indentation of coasts.
2. Surface.
   - *a.* Mountains and other highlands.
   - *b.* Valleys, etc.
   - *c.* How drained.
3. Rivers and lakes.
   - *a.* Names. *b.* Source and course of each.
   - *b.* Drains what.
   - *c.* Empties where.
4. Climate.
   - *a.* Summers. *b.* Winters.
5. Vegetation.
   - *a.* Natural. *b.* Cultivated.
   - *c.* Nature of the soil.
6. Commerce.
   - *a.* Exports. *b.* Imports.
7. Animals.
   - *a.* Domestic. *b.* Wild.
8. Minerals.
   - *a.* Kind. *b.* Extent.
9. Inhabitants.
   - *a.* Number. *b.* Nationalities.
   - *c.* Occupations. *d.* Modes of travel.
10. Important cities.
   - *a.* Location.

33. Arkansas.
34. Texas.
35. Colorado.
36. Nevada.
37. California.
38. Oregon.

2. *Territories.*
   1. Washington.
   2. Arizona.
   3. Utah.
   4. Idaho.
   5. New Mexico.
   6. Wyoming.
   7. Montana.
   8. Indian.
   9. Dakota.

   District of Columbia.

   b. Why important.

11. Capital.
   a. Name and locate.

12. History.
   a. When made a state.
   b. From what territory.

13. Maps.
   a. Draw map of each state from memory.
   b. Draw complete map of United States, locating important rivers, cities, mountains, lakes, railroads, etc.

PART III.

BRITISH AMERICA.

1. *Position.*
   1. Boundaries.
   2. Area.
   3. Indentation of coasts.
2. *Surface.*
   1. Elevations.
   2. Depressions.
3. *Rivers and Lakes.*
   1. Names, source, and direction.
   2. Drains what.
   3. Empties where.
4. *Islands.*
   1. Location and names.
   2. Of what importance.

5. *Climate.*
   1. Summers.
   2. Winters.
6. *Government.*
   1. Title of Chief Executive.
   2. Dependent on.
   3. Members of legislature elected how?
7. *Political Divisions.*

1. Dominion of Canada.	*a.* Position.
2. Prince Edward's Island.	*b.* Size.
3. Newfoundland.	*c.* Describe the coasts.
4. British Columbia.	*d.* Climate and vegetation.
	e. Surface.
	f. Animals.
	g. Chief cities.
	h. Government.
	i. Exports.
	j. Imports.

8. *Map.*
   1. Draw map of British America from memory, locating important cities, rivers, railroads, mountains, and lakes.

DANISH AMERICA.

1. *Divisions.*

1. Greenland.	*a.* Position and size.
2. Iceland.	*b.* Climate and vegetation.
	c. Surface and drainage.
	d. Occupation of inhabitants.
	e. Animals.
	f. Exports and imports.
	g. Describe the coasts.
	h. Draw map of each.

MEXICO.

1. *Position.*
   1. Boundaries.
   2. Area.
   3. Indentation and projection of coasts.
2. *Surface.*
   1. Elevations.
      a. Mountains.
      b. Volcanoes.
   2. Depressions and drainage.
3. *Rivers and Lakes.*
   1. Names, source, and course.
   2. Drainage.
   3. Empty where.
4. *Islands.*
   1. Location and importance.
   2. Inhabitants.
5. *Climate.*
   1. Summers.
   2. Winters.
6. *Vegetation.*
   1. Chief products.
7. *Commerce.*
   1. Exports.
   2. Imports.
8. *Minerals.*
   1. Kind.
   2. Where found.
   3. Extent.
9. *Inhabitants.*
   1. Number and nationality.
   2. Occupation.
10. *Important Cities.*
   1. Name and location.
   2. Why important.

11. *Form of Government.*
12. *Map.*
    1. Draw complete map of Mexico from memory.

CENTRAL AMERICA.

1. *Position.*
    1. Boundaries.
    2. Area.
    3. Indentation and projection of coasts.
2. *Surface.*
    1. Elevations.
    2. Depressions and drainage.
3. *Rivers and Lakes.*
    1. Names, source, and direction.
    2. Empty where.
4. *Climate.*
5. *Chief Products.*
6. *Commerce.*
    1. Exports.
    2. Imports
7. *Minerals.*
    1. Kind.
    2. Extent.
8. *Inhabitants.*
    1. Number and nationality.
    2. Occupation.
    3. Education.
    4. Religions.
9. *Form of Government.*
10. *States.*

1. Guatemala. 2. San Salvador. 3. Honduras. 4. Nicaragua. 5. Costa Rica.	*a.* Boundaries. *b.* Important cities. *c.* Why important.

11. *Map.*
    1. Draw complete map of Central America from memory.

WEST INDIES.

1. *Divisions.*
   1. Greater Antilles.
      a. Cuba.
      b. Hayti.
      c. Porto Rico.
      d. Jamaica.
   2. Lesser Antilles.
   3. Bahamas.

   a. Position, boundaries, and area.
   b. Surface and drainage.
   c. Climate and vegetation.
   d. Exports and imports.
   e. Animals.
   f. Inhabitants.
   g. Form of government.
   h. Important cities.

2. *Map.*
   1. Draw map of West Indies from memory.

SOUTH AMERICA.

1. *Position.*
   1. Boundaries.
   2. Area.
   3. Indentation and projection of coasts.
2. *Surface.*
   1. Elevations.
      a. Mountain systems.
      b. Other highlands.
   2. Depressions.
3. *Rivers and Lakes.*
   1. Magdalena
   2. Orinoco.
   3. Amazon.
   4. La Plata.
   5. Lake Titicaca.

   a. Source.
   b. Course
   c. Drains what.
   d. Empties where.
4. *Islands.*
   1. Location and importance.
5. *Climate.*
   1. Summers.
   2. Winters.

6. *Vegetation and Soil.*
   1. Natural.
   2. Cultivated.
   3. Nature of soil.
7. *Commerce.*
   1. Exports.
   2. Imports.
8. *Animals.*
   1. Domestic.
   2. Wild.
9. *Minerals.*
10. *Inhabitants.*
    1. Number and nationality.
    2. Occupations.
    3. Modes of travel.
    4. Education.
    5. Religions.
11. *Political Divisions.*

    1. Brazil.
    2. Venzeuela.
    3. Guiana.
    4. Columbia.
    5. Ecuador.
    6. Peru.
    7. Bolivia.
    8. Chili.
    9. Argentina.
    10. Uraguay.
    11. Paraguay.
    12. Patagonia.
    13. Tierra del Fuego.

    1. Position.
       a. Boundaries and area.
    2. Surface.
    3. Climate.
    4. Commerce.
       a. Exports.
       b. Imports.
    5. Form of government.
    6. Important cities.
       a. Names.
       b. Locations.
       c. Why important.
    7. Capitals.

12. *Map.*
    1. Draw complete map of South America from memory.

EUROPE.

1. *Position.*
   1. Boundaries and area.
   2. Indentation and projection of coasts.
2. *Surface.*
   1. Elevations.
      a. Mountains.
      b. Other highlands.
   2. Depressions and drainage.
3. *Rivers.*
   1. Names.
   2. Source.
   3. Direction.
   4. Extent.
   5. Empty where.
4. *Lakes.*
   1. Names.
   2. Location.
5. *Climate and Vegetation.*
   1. Southern Europe.
   2. Central "
   3. Northern "

   } *a.* Summers. *b.* Winters.
6. *Nations of Europe.*
   1. Germanic.
   2. Romanic.
   3. Slavonic.
   4. Celts.

   } *a.* Composed of what. *b.* Why so called.
7. *Independent States of Europe.*
   1. Number.
   2. Names.
   3. Forms of Government.

8. *Countries of Europe.*

1. British Isles.
2. Germany.
3. Russia.
4. Austria.
5. Turkey.
6. France.
7. Switzerland.
8. Norway.
9. Sweden.
10. Denmark.
11. Holland.
12. Belgium.
13. Spain.
14. Portugal.
15. Italy.
16. Greece.

1. Position.
   - *a.* Boundaries.
   - *b.* Area.
2. Surface.
   - *a.* Highlands.
   - *b.* How drained.
3. Climate.
   - *a.* Summers.
   - *b.* Winters.
4. Vegetation and soil.
   - *a.* Chief products.
   - *b.* Nature of soil.
5. Commerce.
   - *a.* Exports.
   - *b.* Imports.
6. Animals.
7. Minerals.
8. Form of government.
9. Inhabitants.
   - *a.* Number.
   - *b.* Occupations.
   - *c.* Education.
   - *d.* Religions.
10. Important cities.
    - *a.* Name and locate.
    - *b.* Why important.

9. *Map.*
   1. Draw complete map of Europe from memory.

ASIA.

1. *Position.*
   1. Boundaries.
   2. Area.
   3. Indentation and projection of coasts.
2. *Surface.*
   1. Elevations.
      - *a.* Mountain and other highlanns.

2. Depressions and drainage.

3. *Rivers and Lakes.*
   1. Names.
   2. Source.
   3. Course.
   4. Empty where.

4. *Climate.*
   1. How varied.

5. *Vegetation.*
   1. Natural.
   2. Cultivated.

6. *Commerce.*
   1. Exports.
   2. Imports.

7. *Animals.*
   1. Domestic.
   2. Wild.

8. *Inhabitants.*
   1. Number.
   2. Races.

9. *States.*
   1. Russia in Asia.
   2. Turkistan.
   3. Persia.
   4. Afghanistan.
   5. Turkey in Asia.
   6. Beloochistan.
   7. Arabia.
   8. India.
   9. Farther India.
   10. China.
   11. Japan.
   12. East India Archipelago.

   1. Position and area.
   2. Surface and drainage.
   3. Climate and vegetation.
   4. Exports and imports.
   5. Minerals.
   6. Inhabitants.
      a. Number and occup'n.
      b. Education.
      c. Religions.
   7. Forms of government.
   8. Important cities.
      a. Why important.
      b. Capitals.

10 *Map.*
   1. Draw a complete map of Asia from memory.

AFRICA.

1. *Position.*
   1. Boundaries and area.
   2. Indentation and projection of coasts.
2. *Surface.*
   1. Mountains and other highlands.
   2. Depressions and drainage.
3. *Rivers and Lakes.*
   1. Names.
   2. Source.
   3. Course.
4. *Climate.*
5. *Vegetation and Soil.*
6. *Exports and Imports.*
7. *Animals.*
8. *Minerals.*
9. *Inhabitants.*
   1. Number, races, and occupations.
   2. Education and religions.
   3. Modes of travel.
10. *States.*

1. Morocco. 2. Algiers. 3. Tunis. 4. Tripoli. 5. Egypt. 6. Nubia. 7. Abyssinia. 8. The Sahara. 9. The Soudan. 10. Cape Colony.	1. Position and boundaries 2. Surface and vegetation. 3. Climate 4. Chief products. 5. Exports and imports. 6. Minerals. 7. Inhabitants. *a.* Occupations. *b.* Education and religions. 8. Important cities. *a.* Names. *b.* Location. *c.* Why important.

11. *Map.*
    1. Draw complete map of Africa from memory.

AUSTRALIA.

1. *Divisions.*

1. The Continent.
2. Australian islands.
3. Polynesian islands.

1. Position and area.
2. Surface.
3. Climate.
4. Vegetation and soil.
5. Minerals.
6. Rivers.
7. Exports and imports.
8. Inhabitants.
   a. Number.
   b. Occupations.
   c. Religions.
9. Important cities.
10. Form of government.

2. *Map.*

1. Draw map of Australia from memory.

REVIEW OF GEOGRAPHY.

1. Give the latitude and longitude of the capital of each state and country of the globe.

2. Give the most practicable route to travel from New York to each of the capitals of the states and countries shown on the maps; also the different races of men and other objects of interest that may be seen in such countries.

HISTORY OF UNITED STATES.

PERIOD OF DISCOVERIES.

1. *Discoveries and Claims.*
   1. The Icelanders and Norwegians in America.
      a. Who were they.
      b. Why were their discoveries not recorded.
   2. Spanish.
   3. French.
   4. Dutch.
   5. English.

   (*a.* Discoverers. *b.* What discovered. *c.* Dates. *d.* Territory claimed. *e.* Settlements made.)
2. *American Indians.*
   1. Number and manner of living.
   2. How treated by whites.
   3. Their claims to America.
3. *Maps.*
   1. Draw map of North America.
   2. Draw map of Atlantic Ocean showing the routes taken by prominent discoverers.
4. *Review of Period of Discoveries.*
   1. Give a brief history of each of the principal discoverers, what each discovered, and the routes taken.

COLONIAL PERIOD.

1607—1775.

1. *Draw map of the provinces as they were claimed in 1655.*

2. *History of the Colonies.*

1. Virginia.
2. Massachusetts.
3. New Hampshire.
4. Maryland.
5. Connecticut.
6. New York.
7. New Jersey.
8. Pennsylvania.
9. Delaware.
10. N. Carolina.
11. S. Carolina.
12. Georgia.
13. Rhode Island.

- *a.* Form of government.
- *b.* Founded.
  1. When.
  2. Where.
  3. By whom.
- *c.* Troubles.
  1. Religious.
  2. Political.
  3. Indian.
- *d.* Education.
- *e.* Leading men.

WARS.

1. *King William's War.*
2. *Queen Anne's War.*
3. *King George's War.*
4. *French and Indian War.*

- *a.* Cause.
- *b.* Dates.
- *c.* Where fought.
- *d.* Objects.
- *e.* Parties engaged.
- *f.* Results.
- *g.* How terminated.
- *h.* Effects on the colonies.

REVIEW OF COLONIAL PERIOD.

1. Draw map of the colonies as they were in 1775.
2. Give a list of noted men of this period and state for what each was noted.

REVOLUTIONARY PERIOD.

1. *Causes of the Revolutionary War.*

REMOTE.

1. Right of arbitrary government claimed by Great Britain. How was this a cause.
2. Influence of France. How a cause.
3. Personal character of the colonists. How was this a cause.
4. Personal character of the King. How was this a cause.

IMMEDIATE.

1. Importation act.
   a. Provisions. *b.* Objections to it.
2. Stamp act.
   a. Provisions. *b.* Objections to it. *c.* How carried out.
3. First colonial congress assembled.
   a. When. *b.* Where. *c.* What was done.
4. Second Importation Act.
   a. Provisions. *b.* Effect on the colonies.
5. Boston "Tea Party."
   a. Give its history. *b.* Leading men.
6. Boston massacre.
   a. Cause. *b.* Results.
7. Boston port bill.
   a. Provisions. *b.* Objects. *c.* Effect.
8. Quartering British troops in colonies.
   a. Requirements. *b.* Results.
9. Second colonial congress assembled.
   a. When. *b.* Where. *c.* What was done. *d.* Leading men. *e.* Results.

2. *Military Operations of 1775.*

1. Battle of Lexington.
   a. Date. *b.* Object. *c.* Commanders. *d.* Results. *e.* Incidents of the battle.
2. Ticonderoga and Crown Point captured.
   a. By whom. *b.* Objects. *c.* Results.
3. Battle of Bunker Hill.
   a. Date. *b.* Object. *c.* Commanders. *d.* Results. *e.* Incidents of the battle.
4. Draw map of Boston and vicinity showing the position and movements of troops at Bunker Hill, Lexington, and Concord.

5. Commander-in-chief appointed.
   a. Who. *b.* When. *c.* Where. *d.* By whom.
6. Invasion of Canada.
   a. By whom. *b.* Date. *c.* Object. *d.* Engagements. *e.* Leading officers. *f.* Results.

3. *Military Operations of 1776.*
1. Siege of Boston.
   a. How conducted. *b.* Results.
2. Battle of Fort Moultrie.
   a. Date. *b.* Object. *c.* Commanders. *d.* Results. *e.* Incidents of the battle.
3. Declaration of Independence
   a. When made. *b.* By whom. *c.* Leading men. *d.* Effect on the country.
4. Battle of Long Island.
   a. Date. *b.* Object. *c.* Commanders. *d.* Results. *e.* Draw map showing position and movements of troops.
5. Washington's retreat through New Jersey.
   a. Engagements. *b.* Route taken. *c.* Leading men. *d.* Results.
6. Winter quarters.
   a. Where. *b.* Position of troops.

4. *Military Operations of 1777.*
1. Washington's Campaign in New Jersey and Pennsylvania.
   a. Object. *b.* Movements. *c.* Engagements. *d.* Leaders. *e.* Incidents. *f.* Results. *g.* Draw map showing movements of troops in Pennsylvania.
2. Burgoyne's Invasion.
   a. Object. *b.* Route taken. *c.* Engagements. *d.* Results.
3. Winter quarters.
   a. Where. *b.* Condition of the armies.
4. National flag adopted.
   a. By whom. *b.* When. *c.* Give its history.

5. *Military Operations of 1778.*
   1. The French Alliance.
      a. Why so called. *b.* How brought about. *c.* Effect on England and America. *d.* What aid received from France.
   2. British retreat from Philadelphia to New York.
      a. Cause. *b.* Engagements. *c.* Results.
   3. French fleet.
      a. Operations in 1778. *b.* Results.
6. *Military Operations in 1779.*
   1. In the South.
      a. What troop. *b.* Object. c. Engagements. *d.* Results. *e.* Draw map showing movements.
   2. In the North.
      a. What troop. *b.* Object. *c.* Engagements. *d.* Results. *e.* Draw map showing movements of troops.
   3. Situation at close of 1779.
      a. General feeling. *b.* Cause. *c.* What trouble in purchasing supplies.
7. *Military Operations in 1780.*
   1. Siege of Charleston.
      a. By whom. *b.* Results. *c.* Leading men.
   2. Gates' operations.
      a. Route. *b.* Engagements. *c.* Results.
   3. Treason of Arnold.
      a. Where. *b.* Cause. *c.* How discovered. *d.* Results. *e.* Give brief sketch of Arnold's life and services.
   4. Condition of army in winter of 1780–81.
      a. General feelings. *b.* What demonstrations made. *c.* How met.
8. *Military Operations of 1781.*
   1. Greene in the Carolinas.
      a. Engagements. *b.* Leading men. *c.* Incidents of the campaign. *d.* Results. *e.* Draw map of the Carolinas showing movements of the troops.

2. Siege of Yorktown.
   a. Forces. *b.* Leading officers. *c.* Duration. *d.* Results.
3. Close of the War.
   a. What steps were taken for peace. *b.* When and where was treaty of peace signed. *c.* Results of the war.

9. *Preparations for a Constitutional Government.*
1. Articles of Confederation adopted.
   a. Objects. *b.* When adopted. *c.* Defects. *d.* Continued how long.
2. Constitution adopted.
   a. When *b.* How. *c.* What opposition. *d.* Objections raised to it. *e.* How were these objections compromised.
3. Political parties formed.
   a. What parties. *b.* Platforms.

REVIEW OF REVOLUTIONARY PERIOD.

1. Write a list of battles in chronological order, giving commanders and successful parties.
2. Write an essay on the cause and results of the Revolutionary War.
3. Trace on map of the United States the movements of the armies, and recite the most important incidents of the war, from Lexington and Concord to its close.
4. Draw map of United States as it was in 1783.

CONSTITUTIONAL PERIOD.

WASHINGTON'S ADMINISTRATION.—1789–1797.

1. *Election.*
   1. By what party.
   2. Meaning of the election.
2. *Important Facts.*
   1. The government established.
      a. Departments, and duties of each. *b.* Cabinet officers, and duties of each.
   2. Revenue.
      a. Why needed. *b.* How raised.
   3. Seat of government established.
      a. Where. *b.* For how long.
   4. French Revolution.
      a. Its effect in the United States.
   5. Whiskey Insurrection.
      a. Where. *b.* Cause. *c.* Effect.
   6. Boundaries between United States, Florida, and Louisiana.
      a. How settled. *b.* Gain to United States.
   7. States admitted.
      a. What. *b.* Dates. *c.* From what territory.

ADAMS' ADMINISTRATION.—1797–1801.

1. *Election.*
   1. By what party.
   2. Meaning of the election.
2. *Important Facts.*
   1. French difficulties.
      a. Cause. *b.* Extent. *c.* How terminated.
   2. Death of Washington.
      a. When. *b.* Where. *c.* Cause.

3. Alien and sedition laws.
   a. By whom passed. *b.* Provisions. *c.* How received. *d.* Results.

JEFFERSON'S ADMINISTRATION.—1801–1809.

1. *Election.*
   1. By what party.
   2 Meaning of the election.
2. *Important Facts.*
   1. Louisiana purchase.
      a. From whom. *b.* Price paid. *c.* Territory included. *d.* Advantage to the United States.
   2. Tripolitan War.
      a. Cause. *b.* Incidents. *c.* How and when terminated.
   3. Burr–Hamilton duel.
      a. Cause. *b.* Results. *c.* What became of Burr.
   4. Embargo of 1807.
      a. Causes. *b.* Provisions. *c.* Results.
   5. Steamboat invented.
      a. By whom. *b.* When. *c.* Results.
   6. States admitted.
      a. What. *b.* Date. *c.* From what territory.

MADISON'S ADMINISTRATION.—1809–1817.

1. *Election.*
   1. By what party.
   2. Meaning of the election.
2. *Important Facts.*
   1. Non-intercourse Act.
      a. Provisions. *b.* Results.
   2. Battle of Tippecanoe.
      a. Causes. *b.* Parties engaged. *c.* Incidents.

3. *War of 1812.*
   1. Causes of the War.
      a. Causes. *b.* What principle involved.
   2. Military operations of 1812.
      1. Hull's surrender.
         a. Relate the circumstances. *b.* Cause. *c.* Results.
      2. Battle of Queenstown Heights.
         a. Date. *b.* Route. *c.* Leaders. *d.* Results.
   3. Naval operations of 1812.
      1. Engagements.
         a. Where. *b.* Parties. *c.* Results.
   4. Military operations of 1813.

      1. Army of the West.
      2. Army of the Centre.
      3. Army of the North.
      4. Indian wars.

      a. Positions. *b.* Objects. *c.* Commanders. *d.* Movements. *e.* Results.
   5. Hartford Convention.
      a. By whom held. *b.* Its objects. *c.* Results.
   6. Military operations of 1814.

      1. Northern campaign.
      2. Southern campaign.

      a. Positions. *b.* Objects. *c.* Commanders. *d.* Engagements. *e.* Results.
      3. Battle of New Orleans.
         a. Position. *b.* Object. *c.* Movements. *d.* Commanders. *e.* Results.
      4. War terminated.
         a. By what treaty. *b.* When. *c.* Gain or loss to the United States.
   7. War with Algiers.
      a. Cause. *b.* Movements. *c.* Results.
   8. Bank of United States chartered.
      a. Give its history. *b.* By whom advocated. *c.* By whom opposed.

9. States admitted.
    a. What. *b.* Date. *c.* From what territory.

MONROE'S ADMINISTRATION.—1817–1825.

1. *Election.*
    1. By what party.
    2. Meaning of the election.
2. *Important Facts.*
    1. Agitation concerning internal improvements.
        a. Causes. *b.* Who favored. c. Who opposed. *d.* Results.
    2. Indian war in Georgia.
        a. Causes. *b.* How suppressed. *c.* Results.
    3. Florida purchase.
        a. From whom. *b.* Price paid. *c.* Gain to United States.
    4. States admitted.
        a. What. *b.* Date. *c.* From what territory.
    5. Missouri compromise.
        a. Cause. *b.* Provisions. *c.* By whom advocated. *d.* By whom opposed.
    6. Monroe doctrine.
        a. What was it. *b.* How brought about.
    7. Visit of La Fayette.

JOHN QUINCY ADAMS' ADMINISTRATION.—1825–1829.

1. *Election.*
    1. By what party.
    2. Meaning of the election.
2. *Important Facts.*
    1. Treaty with the Creek Indians.
        a. Cause of dispute. *b.* How settled. *c.* Provisions of the treaty.

2. Death of eminent men.
   a. Who. *b.* Write brief sketch of their lives.
3. Protective tariff.
   a. Define. *b.* What objections to it. *c.* Where popular and why. *d.* Where distasteful and why.

JACKSON'S ADMINISTRATION.—1829–1837.

1. *Election.*
   1. By what party.
   2. Meaning of election.
2. *Important Facts.*
   1. Attempt to renew the United States Bank charter.
      a. By what party advocated. *b.* By what party opposed. *c.* Results.
   2. Black Hawk war.
      a. Causes. *b.* Where fought. *c.* Results.
   3. Nullification.
      a. Define. *b.* Cause. *c.* Where endorsed. *d.* How settled.
   4. Florida war.
      a. Causes. *b.* Commanders. *c.* How conducted. *d.* Results.
   5. Politics.
      a. Democrats, *b.* Whigs. } 1. Advocated what. 2. Leading men.
   6. States admitted.
      a. What. *b.* Dates. *c.* From what territory.

VAN BUREN'S ADMINISTRATION.—1837–1841.

1. *Election.*
   1. By what party.
   2. Meaning of election.

2. *Important Facts.*
   1. Financial crisis of 1837.
      a. Causes. *b.* Effects.
   2. Foreign affairs.
      a. Give the history of the "Canada Rebellion."
   3. States admitted.
      a. What. *b.* Date. *c.* From what territory.

HARRISON AND TYLER'S ADMINISTRATION—1841–1845.

1. *Election.*
   1. By what party.
   2. Meaning of the election.
2. *Important Facts.*
   1. Death of Harrison.
      a. When. *b.* Who became President.
   2. Tyler's action on U. S. Bank bill.
      a. What was it. *b.* How received by his party. *c.* Result.
   3. Ashburton Treaty.
      a. Settled what. *b.* Why so named.
   4. Dorr's Rebellion.
      a. Where. *b.* Causes. *c.* How terminated.
   5. Mormon troubles.
      a. Where. *b.* Cause. *c.* Results.
   6. States admitted.
      a. What. *b.* Date. *c.* From what territory

POLK'S ADMINISTRATION.—1845–1849.

1. *Election.*
   1. By what party.
   2. Meaning of the election.
2. *Important Facts.*

MEXICAN WAR.

1. Causes.
2. Campaigns.
   1. On the Rio Grande.
   2. Invasion of Mexico by Taylor.
   3. The conquest of New Mexico and California by Fremont and Kearney.
   4. Scott in Mexico.

   a. Date. *b.* Route taken. *c.* Engagements. *d.* Commanders. *e.* Results. *f.* Incidents of the war.
3. Peace established.
   a. How. *b.* Date. *c.* Gain or loss to United States.
4. Gold discovered.
   a. When. *b.* Where. *c.* Results.
5. Free Soil party organized.
   a. When. *b.* By whom. *c.* Platform.
6. States admitted.
   a. What. *b.* Date. *c.* From what territory.

TAYLOR'S AND FILLMORE'S ADMINISTRATIONS.—1849–1853.

1. *Election.*
   1. By what party.
   2. Meaning of the election.
2. *Important Facts.*
   1. The omnibus bill.
      a. Its purpose. *b.* Provisions. *c.* Effect.
   2. Cuban difficulties.
      a. Cause. *b.* Results.
   3. Trouble with England.
      a. Cause. *b.* How settled. *c.* Results.
   4. An Arctic squadron equipped.
      a. Its object. *b.* Commander. *c.* Results.
   5. Death of Taylor.
      a. When. *b.* Where. *c.* Who became President.

6. Death of Clay and Webster.
   a. Date. *b.* Write brief sketch of their lives.

PIERCE'S ADMINISTRATION.—1853–1857.

Election.

1. By what party.
2. Meaning of the election.

Important Facts.

1. Route for Pacific railroad explored.
   a. Where. *b.* When. *c.* By whom.
2. Japan opens two ports of entry to the United States.
   a. How brought about. *b.* Effect on the United States.
3. Gadsden Purchase.
   a. What. *b.* From whom. *c.* Provisions.
4. Kansas Nebraska bill.
   a. Origin. *b.* Provisions. *c.* When passed. *d.* Results.
5. Republican party formed.
   a. By whom. *b.* Platform.

BUCHANAN'S ADMINISTRATION.—1857–1861.

Election.

1. By what party.
2. Meaning of the election.

Important Facts.

2. Mormon troubles.
   a. What. *b.* Results.
2. Atlantic telegraph laid.
   a. By whom. *b.* When. *c.* Of what importance.
3. Dred Scott decision.
   a. Give its history.

4. John Brown's raid.
   a. Give its history.
5. Democratic party divided.
   a. Causes. *b.* Date. *c.* Results.
6. States admitted.
   a. What. *b.* Date. *c.* From what territory.

LINCOLN'S ADMINISTRATION.—1861–1865.

1. *Election.*
   1. By whom elected.
   2. Meaning of the election.
2. *Important Facts.*
   1. Fort Sumpter bombarded.
      a. When. *d.* By whom. *c.* Results.
   2. Secession.
      a. Definition. *b.* By whom advocated. *c.* By whom opposed. *d.* What states seceded.
   3. Civil war.
      a. Definition. *b.* Give the causes, both remote and immediate, that led to our civil war.

REVIEW OF THE CONSTITUTIONAL PERIOD TO THE WAR OF SECESSION.

1. Write a list of Presidents from Washington to Lincoln inclusive, in the order in which they were elected.
2. Make a list of political parties in chronological order with a brief statement of the platforms of each.
3. Review of political meanings of presidential elections.
4. List of states admitted, with dates of admission, and from what territory taken.
5. List of conspicuous actors of the war of 1812, stating for what each was noted.
6. List of conspicuous actors of the Mexican war, stating for what each was noted.

7. Draw a map showing the original thirteen states; Spanish cession in 1819; Mississippi Territory; territory south of the Ohio river; territory north of the Ohio river; province of Louisiana; Mexican cession; and Texas.
8. Prepare a sketch of the lives and public services of Patrick Henry, John Hancock, Benjamin Franklin, Ethan Allen, Benedict Arnold, LaFayette, George Washington, John Adams, Thomas Jefferson, Alexander Hamilton, Robert Fulton, Tecumseh, James Madison, Andrew Jackson, Henry Clay, Daniel Webster, Black Hawk, Winfield Scott, Santa Anna, John C. Calhoun, and Zachary Taylor.

WAR OF SECESSION.

OPERATIONS OF 1861.

1. *Organization of the Army.*
   1. How organized.
   2. What difficulties experienced.
   3. Who appointed commander.
   4. Important places held by Federals.
   5. Important places held by Confederates.
2. *In the West.*
   1. In Missouri.
   2. On the Mississippi.
3. *In the East.*
   1. In West Virginia.
   2. In Eastern Virginia.

   a. Engagements.
   b. Prominent officers.
   c. Feelings of the people.
   d. Conduct of the soldiers.
   e. Results of campaigns.
4. *Naval and Coast Operations.*
   1. Places held by Federals.
   2. Places held by Confederates.
5. *Foreign Relations.*
   1. Attitude of France.

2. Attitude of England.
3. Trent affair.
   a. What troubles. *b.* How settled.

OPERATIONS OF 1862.

1. *In the West.*
   1. Federal position.
   2. Confederate position.
   3. Engagements.
   4. Trace movements of armies on map.
   5. Leading officers.
   6. Results.
      a. Of each engagement.
      b. Of the campaigns.
2. *In the East.*
   1. Disposition of troops. { *a.* Federal. *b.* Confederate.
   2. Peninsula campaign.
      a. Date. *b.* Objective point. *c.* Route taken. *d.* Engagements. *e.* Leading officers. *f.* Important events. *g.* Results. *h.* Draw a map of the Peninsula showing the route taken and battles fought.
   3. Lee's invasion of the North.
      a. Date. *b.* Object. *c.* Route. *d.* Engagements. *e.* Leading officers. *f.* Important events. *g.* Results.
   4. On the Rappahannock.
      a. Engagements. *b.* Dates. *c.* Results.
   5. At New Orleans.
      a. Date. *b.* Results. *c.* Draw a map of New Orleans and vicinity.
   6. Naval actions.
      a. Engagements. *b.* Results.

OPERATIONS OF 1863.

1. *Emancipation Proclamation.*
   1. Date.
   2. Provisions.
   3. Effect on the country.
2. *In the East.*
   1. Position of troops in spring of 1863.
      a. Federal. *b.* Confederate.
   2. Change of commanders.
      a. What change. *b.* When made. *c.* Cause.
   3. Battle of Chancellorsville.
      a. Date.
      b. Objective point.
      c. Commanders.
      d. Results.
   4. Lee's invasion of Pennsylvania.
      a. Date. *b.* Object. *c.* Route. *d.* Engagements. *e.* Commanders. *f.* Important events. *g.* Results.
3. *In the West.*
   1. Position of troops.
      a. Federal. *b.* Confederate.
   2. Army of the Tennessee.
   3. Army of the Cumberland.
      a. Commanders.
      b. Object. *c.* Route.
      d. Engagements.
      e. Important events.
      f. Results.
4. *Draft Riots.*
   1. Where.
   2. Cause.
   3. Results.

OPERATIONS OF 1864.

1. *In Virginia.*
   1. Position of troops.
      a. Federal. *b.* Confederates.

2. Grant's move on Richmond.
3. Command under Butler.
4. Sheridan's valley campaign.

a. Object. *b.* Route. *c.* Engagements. *d.* Important events. *e.* Commanders. *f.* Results.

2. *In the West.*

1. Sherman's campaign.
2. Red River expedition.
3. Thomas' campaign.
4. Naval operations.

a. Positions. *b.* Objects. *c.* Routes. *d.* Commanders. *e.* Engagements. *f.* Important events. *g.* Results. *h.* Draw map of Western and Southern states showing the movements of the armies.

3. *Lincoln's Reëlection.*
   1. By what party.
   2. Meaning of the election.

OPERATIONS OF 1865.

1. *Sherman's Movements.*
2. *Sheridan's Movements.*
3. *Grant's Movements.*

a. Objects. *b.* Routes. *c.* Engagements. *d.* Results.

4. *Assassination of Lincoln.*
   1. By whom.
   2. Effect on the country.
   3. Results.
5. *Jeff. Davis Captured.*
   1. Where.
   2. When.
   3. What was done with him.
6. *Army Disbanded.*—When, how, and where.

JOHNSON'S ADMINISTRATION.—1865–1869.

1. *Election as Vice-President.*
   1. By what party.
   2. How made President.

2. *Important Facts.*
   1. Reconstruction.
      a. What steps taken.
   2. Public debt.
      a. Amount. *b.* What steps were taken to meet it.
   3. Foreign relations.
      a. With France in regard to Mexico.
   4. Impeachment of Johnson.
      a. Cause. *b.* Results.
   5. States re-admitted.
      a. What states. *b.* How.
   6. Purchase of Alaska.
      a. Object. *b.* Price paid.

GRANT'S ADMINISTRATION.—1869–1877.

1. *Election.*
   1. By what party.
   2. Meaning of the election.
2. *Important Facts.*
   1. Completion of Pacific Railroad.
      a. Date. *b.* Extent. *c.* Of what importance.
   2. Constitutional amendments adopted.
      a. What ones. *b.* Provisions.
   3. Ninth census completed.
      a. Population of United States.
   4. Treaty of Washington made.
      a. Its object. *b.* By whom. *c.* Its provisions. *d.* Its results.
   5. Chicago fire.
      a. Date. *b.* Loss. *c.* Effect on the country.
   6. Grant reëlected.
      a. By what party. *b.* Meaning of the election.
   7. Boston fire.
      a. Date. *b.* Loss. *c.* Effects.

8. Modoc war.
   a. Causes. *b.* How fought. *c.* Results.
9. Credit Mobiler investigation.
   a. Causes. *b.* Results.
10. Louisiana troubles.
   a. Causes. *b.* Results.
11. Financial panic of 1873.
   a. Causes. *b.* Results.
12. Death of eminent men.
   a. Who. *b.* When.

HAYES' ADMINISTRATION.

1. *By what party.*
2. *What trouble in regard to electoral count and how was it settled.*
3. *Indian Troubles.*
   a. When begun. *b.* Engagements and losses. *c.* How settled.
4. *Condition of the Country, January 1, 1878.*
   a. Financial. *b.* Commercial. *c.* Agricultural. *d.* Political. *e.* Educational.

REVIEW OF CONSTITUTIONAL PERIOD FROM BEGINNING OF WAR OF SECESSION TO 1878.

1. List of prominent actors of War of Secession, stating for what each was noted.
2. List of decisive battles and the successful parties.
3. Write a brief history of the War of Secession.
4. Prepare a sketch of the lives and public services of Abraham Lincoln, Stephen A. Douglass, William H. Seward, Jefferson Davis, Stonewall Jackson, U. S. Grant, Geo. B. McClellan, Philip Kearney, Charles Sumner, Horace Greeley, Andrew Johnson, Robert E. Lee, W. T. Sherman, George H. Thomas, and Oliver P. Morton.
5. Draw a may of United States as it was in 1877, locating important cities, railroads, and rivers.

PHYSIOLOGY AND HYGIENE.

PART I.—PHYSIOLOGY.

1. *Classification of Bodies.*
   1. Organic } *a.* Define.
   2. Inorganic. } *b.* Give examples.
2. *Organic Bodies Divided.*
   1. Vegetable. } *a.* Define.
   2. Animal. } *b.* Give examples.
3. *Animal Characteristics.*
   1. Manner of taking food. } Compared with vegetables.
   2. Nervous system. }
4. *Animal Sub-Kingdoms.*
   1. Radiates. } *a.* Define.
   2. Mollusks. } *b.* Give examples.
   3. Articulates. }
   4. Vertebrates. }
5. *Vertebrates Classified.*
   1. Fishes. } Describe each class.
   2. Reptiles. }
   3. Birds. }
   4. Mammals. }
6. *Relation of Man to the Lower Animals.*
   1. Characteristics of Man.
      a. Framework of body. *b.* Face. *c.* Mind. *d.* Expressive functions.
7. *Human Body Divided into Systems.*
   1. Nutrition. } *a.* Define each.
   2. Voluntary motion. } *b.* Analyze each.
   3. Nervous. } *c.* Give examples.

NUTRITION.

1. *Food.*
   1. Albuminate. 2. Carbonaceous. — *a.* Define. *b.* Why so called. *c.* Examples of each.
2. *Mouth.*
   1. Mastication.
      a. Define it. *b.* Its purpose.
   2. Mucous Membrane.
      a. Describe it. *b.* Why so called. *c.* Its functions.
   3. Serous Membrane.
      a. Describe it. *b.* Why so called. *c.* Its functions.
   4. Teeth.
      a. Composition. *b.* Number. *c.* Classes and names. *d.* Shape and functions.
3. *Salivary Glands.*
   1. Parotid. 2. Submaxillary. 3. Sublingual. — *a.* Situation. *b.* Functions. *c.* Why so named.
4. *Saliva.*
   1. Its composition. 2. Its use. 3. Why better than water.
5. *Tongue.*
   1. Describe it. 2. What is its use.
6. *Pharynx.*
   1. Shape. 2. Structure. 3. Linings. 4. Openings and termination.
7. *Esophagus.*
   1. Position and extent. 2. Number and description of coats. 3. Functions and terminations.

DIGESTION.

1. *Stomach.*
   1. Shape, position, and orifices. 2. Functions. 3. Describe the coats. 4. Sympathy between stomach and mouth. 5. Process of digestion in the stomach. 6. Formation of chyme.

2. *Intestinal Canal.*
   1. Duodenum. 2. Jejunum. 3. Ileum. — *a.* Shape and length. *b.* Describe the coats. *c.* Why so named.
   4. Mesentery. 5. Lacteals. — *a.* Location. *b.* Arrangement. *c.* Why so named. *d.* Functions.
   6. Cæcum. 7. Colon. 8. Rectum. — *a.* Length. *b.* Structure. *c.* Use of Ileo-Colic valve.
3. *Liver.*
   1. Location. 2. Shape. 3. Functions.
4. *Pancreas.*
   1. Location. 2. Shape. 3. Functions.
5. *Chyle.*
   1. How formed. 2. Where transmitted. 3. Use.
6. *Thoracic Duct.*
   1. Location. 2. Extent. 3. Function.
7. *Spleen.*
   1. Location. 2. Shape. 3. Functions.

CIRCULATION.

1. *The Heart.*
   1. Location. 2. Position. 3. Shape. 4. Divisions. 5. Right and left sides compared. 6. Action described. 7. Valves and their uses.
2. *Arteries.*
   1. Structure and origin. 2. Ramifications. 3. Functions.
3. *Capillaries.*
   1. Structure. 2. Location. 3. Functions.
4. *Veins.*
   1. Origin. 2. Structure. 3. Terminations. 4. Functions. 5. How distinguished from arteries.
5. *Pulse.*
   1. Define. 2. How caused.

6. *Lymphatics.*
   1. Location. 2. Structure. 3. Functions. 4. Communications.
7. *Absorbants.*
   1. Describe them. 2. Functions.
8. *Anastomosing Vessels.*
   1. What are they. 2. Why so called. 3. Communications. 4. Functions.

RESPIRATION.

1. *Respiratory Apparatus.*
   1. Consists of what. 2. Its purpose.
2. *Trachea.*
   1. Location. 2. Structure. 3. Communications. 4. Functions.
3. *Bronchia.*
   1. Origin. 2. Structure. 3. Ramifications. 4. Termination.
4. *Air Cells.*
   1. Location. 2. Structure. 3. Functions. 4. How gasses are transmitted through them.
5. *Lungs.*
   1. Number. 2. Location. 3. Position. 4. Functions.
6. *Diaphragm.*
   1. Define. 2. Structure. 3. Shape. 4. How bounded. 5. Describe the process of respiration.
7. *Purpose of Respiration.*
   1. What is it. 2. Use of oxygen to the system.
8. *Animal Heat.*
   1. Definition. 2. Source. 3. Use to the body.
9. *Liver.*
   1. Location. 2. Position. 3. Size. 4. Color. 5. Functions.

10. *The Skin.*
    1. Coats named and described. 2. Glands named and described. 3. Insensible perspiration defined.
11. *The Kidneys.*
    1. Location. 2. Shape. 3. Color. 4. Functions.
12. *Temperature of the body.*
    1. How affected in man. 2. In different animals. 3. In different climates.

GROWTH AND REPAIR.

1. *Blood.*
    1. Its composition. 2. Its use. 3. Amount in human body. 4. Different kinds. 5. Color.
2. *Blood Disks.*
    1. What are they. 2. Different kinds. 3. Functions.
3. *Cell Structure.*
    1. How carried on. 2. Mode of growth explained. 3. How cells are destroyed. 4. Relation of blood to cell transformation.

THE SKELETON.

1. *Bones.*
    1. Their uses. 2. Structure. 3. Covering. 4. Shapes. 5. Process of ossification. 6. Chemical composition. 7. Joints defined and classified.
2. *Cartilages.*
    1. Definition. 2. Uses.
3. *Ligaments.*
    1. Formation. 2. Uses.
4. *Bones of the head.*
    1. Skull bones.
        a. Names. *b.* Shape. *c.* Location. *d.* Joints.

2. Face Bones.
   a. Names. *b.* Number.

5. *Spinal Column.*
   1. Number of bones. 2. Shape of bones. 3. How held together.

6. *Ribs.*
   1. Number. 2. Position. 3. Curvatures. 4. Articulations.

7. *Sternum.*
   1. Shape. 2. Location. 3. Functions.

8. *Upper Extremeties.*
   1. Shoulder. 2. Arms. 3. Hands. — *a.* Names. *b.* Number. *c.* Shape. *d.* Articulations. *e.* Functions.

9. *Lower Extremeties.*
   1. Thigh. 2. Leg. 3. Foot. — *a.* Names. *b.* Number. *c.* Shape. *d.* Size. *e.* Articulations. *f.* Functions.

MUSCLES.

1. *Formation.*
   1. How formed. 2. Fibers and Facia described.

2. *Muscular Contraction.*
   1. How caused. 2. Its power.

3. *Use of the Muscles.*

4. *Tendons.*
   1. Formation. 2. Uses. 3. How united with muscles.

5. *Arrangement of Muscles.*
   1. To produce motion. 2. In pairs.

6. *Muscular Motion.*
   1. Voluntary. 2. Involuntary. — *a.* Define. *b.* Give examples.

LARYNX.

1. *Position, Shape, and Communications.*

2. *Cartilages.*
   1. Cricoid.
   2. Thyroid. } Describe each.
   3. Arytenoid.
3. *Glottis and Epiglottis.*
   1. Location. 2. Definition. 3. Uses.
4. *Vocal Cords.*
   1. Position. 2. Formation. 3. Uses.
5. *Pitch of Voice.*
   1. How caused. 2. How modulated.
6. *Functions of the Larnyx.*

NERVOUS SYSTEM.

1. *Brain.*
   1. Divisions. 2. Composition. 3. Functions. 4. Membranes.
      a. Describe each.
2. *Cranial Nerves.*
   1. Number. 2. Extent. 3. Connections. 4. Arrangement. 5. Functions.
3. *Spinal Nerves.*
   1. Number. 2. Divisions. 3. Names. 4. Arrangement. 5. Ramifications.
4. *Motor Nerves.*
   1. Origin. 2. Functions. 3. Effect of injury to them
5. *Sentient Nerves.*
   1. Origin. 2. Functions. 3 Terminations.
6. *Effect of Injury to a Nervous Trunk.*
7. *Sympathetic Nervous System.*
   1. Definition. 2. Relation to other nerves.

SENSE OF HEARING.

1. *The Ear.* How divided. Use.

1. External ear.
   a. Shape. *b*. Purpose. *c*. Openings, how protected.
2. Tympanum.
   a. Location. *b*. Shape. *c*. Size. *d*. Use.
3. Bones of the ear.
   a. Number. *b*. Shape. *c*. Location. *d*. Names. *e*. Use. *f*. Articulations. *g*. Effect of disease upon the bones.
4. Labyrinth.
   a. Composed of what. *b*. Describe the vestibule.
5. Sound.
   a. How transmitted. *b*. How made.

SENSE OF SEEING.

1. *The Eye*.
   1. Divisions.
   2. Muscles.
      a. Number. *b*. Attatchments. *c*. Functions.
   3. Lachrymal Glands.
      a. Location. *b*. Functions.
   4. Coats of the eye.
      a. Name. *b*. Location. *c*. Structure. *d*. Functions.
   5. Iris.
   6. Pupil.
   7. Ciliary Processes.

   } Locate and describe each.

   8. Aqueous Humor.
      a. Location. *b*. Shape. *c*. Nature. *d*. Effect of shape.
   9. Crystalline Lens.
      a. Location. *b*. Nature. *c*. Shape. *d*. Functions.
   10. Vitreous Humor.
      a. Location. *b*. Nature. *c*. Shape. *d*. Functions.
   11. How objects are seen.

a. Why seen erect. *b.* Explain by illustration.

12. Spherical aberration.
    a. Its cause. *b.* Its effect. *c.* How remedied.
13. Short sightedness.
    a. Its cause. *b.* Its cure.
14. Long sightedness.
    a. Its cause.
15. Size and distance of objects.
    a. How determined. *b.* Effect of transparency of air.
16. Double vision.
    a. How caused. *b.* Advantage of two eyes. *c.* Influence of two eyes on vision.

NERVOUS FUNCTIONS.

1. *Spinal Cord Analyzed.*
    1. Grey matter { *a.* Ratio.
    2. White matter. { *b.* Location.
    3. Communication of spinal nerves explained.
    4. Functions of spinal cord.
2. *Motions.*
    1. Voluntary. { *a.* Definitions.
    2. Involutary. { *b.* Causes.
    3. Reflex. { *c.* Examples.

MENTAL FUNCTIONS.

1. *Thought.*
    1. Dependent on what.
    2. How shown.
    3. Measured by; how shown.
    4. Origin of; how proven.
    5. Difference between voluntary and involuntary thought explained.

6. Thought modified by training, examples.
7. Man compared with the lower animals in regard to thought.

SLEEP.

1. *Effect on the Senses. Examples.*
2. *Effect on Nervous Functtons. Examples.*
3. *Effect onMental Functions. Examples.*
4. *Effect on Brain. Examples.*
5. *What amount necessary.*
6. *Difference between coma and sleep.*

PART II.—HYGIENE.

1. *Hygiene defined and compared with Physiology.*
2. *Health and disease defined and compared.*
3. *Influence of Hygiene on duration of life.*
4. *Water.*
   1. Sources of impurity. 2. How purified. 3. Proper temperature of drinks.
5. *Drinks.*
   1. Tea.
   2. Coffee.
   3. Chocolate.
   4. Fermented drinks.

   } *a.* Effect on the system. *b.* Uses. *c.* Abuses.

CLASSIFICATION OF FOOD.

1. Animal.
2. Vegetable.

} *a.* Definitions. *b.* Examples.

FOOD DIVIDED INTO GROUPS.

1. *Flesh Forming.*
   1. Gluten.
   2. Fibrine.
   3. Caseine.
   4. Albumen.
   5. Gelatine.

   a. Chemical properties. *b.* Where found. *c.* Uses.

2. *Starchy Group.*
3. *Fatty* "
4. *Metallic* "
5. *Acid* "

   a. Where found. *b.* Composition. *c.* Uses.

KINDS OF FOOD—THEIR VALUE.

1. *Milk.*
   1. Its composition. 2. Its effect on the system. 3. Its effect—how modified.
2. *Cheese.*
   1. How produced. 2. Value as food. 3. Quantity to be eaten.
3. *Butter.*
   1. Belongs to which group. 2. Value as food.
4. *Eggs.*
   1. Belong to which group. 2. Value as food. 3. Manner of cooking.
5. *Animal Flesh.*
   1. Different kinds. 2. Value of each as food. 3. Manner of cooking.

6. *Wholesome Meat.*
   1. How distinguished. 2. Why necessary.

7. *Wheat.*
8. *Rye.*
9. *Corn.*
10. *Barley*
11. *Oats.*
12. *Beans.*
13. *Peas.*
14. *Rice.*
15. *Potatoes.*
16. *Turnips.*
17. *Beets.*
18. *Onions.*
19. *Cabbage.*
20. *Fruits.*
21. *Salt.*
22. *Vinegar.*

a. Belongs to which group.
b. Chemical propertiess.
c. Dietetic value.
d. Manner of cooking.
e. What precautions necessary in the use of seasoning.

QUANTITY OF FOOD.

1. *How Modified by Digestion.*
2. *Things that Affect Digestion.*
   1. Tobacco.
   2. Temperature.
   3. Exercise.
   4. Ventilation.
   5. Change of habits.
   6. Mental labor.
   7. Alcohol.

a. What effect on digestion.
b. How should they be taken.
c. Examples.

TIME OF TAKING FOOD.

1. *Intervals.*
   1. How long. 2. Importance of regularity.
2. *Breakfast.*
3. *Dinner.*
4. *Supper.*

a. When.
b. Kinds of food best.

5. *Eating between Meals.*

1. Effect of. 2. Why injurious.

6. *Manner of Eating.*
   1. Fast or slow, and why. 2. Proper temperature of food. 3. Importance of thorough mastication.
7. *Effect of Eating when Fatigued.*
8. *Rest following Meals.*
   1. How much. 2. Why.
9. *Quantity of Food.*
   1. How measured. 2. Effect of eating too much.

CIRCULATION.

1. *Pressure on the Veins.*
   1. How injurious. 2. How are the veins frequently pressed.
2. *Change of Temperature.*
   1. Effect on circulation. 2. Cause and examples.
3. *Influence of Mind on Circulation.*
   1. What influence. 2. Examples.
4. *Bleeding from Arteries.*
   1. How checked. 2. How distinguished from bleeding from veins.

BREATHING.

1. *Movements of the Ribs in Breathing.*
   1. What movement. 2. How hindered. 3. Effect of compression. 4. When is compression of the ribs most injurious, and why.
2. *Imperfect Breathing.*
   1. How detected. 2. Its effect. 3. How corrected.

PURE AIR.

1. *Composition of Air.*
   1. Elements. 2. Ratio of elements. 3. Functions of each element.
2. *Impure Air.*
   1. Source. 2. Effect. 3. How corrected.
3. *Means of Purifying Air.*
   1. Natural. 2. Artificial.
4. *Diminution of Oxygen by Breathing.*
   1. How much. 2. Explain the process.

ANIMAL HEAT.

1. *Temperature of the Body.*
   1. How influenced by age. 2. Climatic influence. 3. How uniform temperature is maintained. 4. Effect of overheated rooms. 5. Proper temperature of rooms. 6. Means of reducing heat. 7. Effects of exposure to currents of air. 8. Importance of moisture.
2. *Bathing.*
   1. Why necessary. 2. How to bathe. 3. Caution in bathing. 4. Kinds of baths described.
3. *Clothing.*
   1. Its relation to health. 2. Quantity needed. 3. Varieties of clothing compared. 3. Effects of compressing the body by clothing. Examples.

BONE.

1. *Bone Nutrition.*
   1. What food necessary for formation and repair of bone. 2. Effect of an over-supply of bone-earth.
2. *Distortion of Bone.*
   1. How produced. Examples. 2. Effect of stooping.
3. *Deformed Feet.*

1. How produced. 2. Effects.

4. *Spinal Curvature.*
   1. Cause. 2. Remedy.
5. *Effect of Exercise on Bones.*
   1. Too much. 2. Not enough.

EXERCISE.

1. *Effect of Muscular Motion.*
2. *Kinds of Air best for Exercise. Why.*
3. *Sunlight and Shadow.*
   1. Their relation to good health. Examples.
4. *Amount required.*
   1. What amount. 2. How increased. 3. Effect of increasing the amount too rapidly.
5. *Relation of Mental and Physical Exercise.*
6. *Rules for taking Exercise.*
7. *Games.*
   1. What kind beneficial. Why.
8. *Manual Labor.*
   1. Healthful. 2. Injurious.
9. *Best Time for Study.*

BRAIN POISONS.

1. *Alcohol.*
   1. Its chemical relation.
   2. Its effect on
      - *a.* Digestion.
      - *b.* Chemical change.
      - *c.* Muscular force.
      - *d.* Animal heat.
      - *e.* Nervous system.
      - *f.* Vision.
      - *g.* Smell.
      - *h.* Hearing.
      - *i.* Taste.
      - *j.* Mind.
      - *k.* Duration of Life.

2. *Tobacco.*
   1. Effects compared with those of alcohol. 2. Chemical properties compared with those of alcohol.
3. *Opium.*
   1. Compared with alcohol. 2. Compared with tobacco.

SLEEP.

1. Its necessity.
2. Its effect.
3. Amount required.
4. Best time for sleep.
5. Effect of producing sleep by medicine.

WAKEFULNESS.

1. Its cause.
2. Its effect.
3. Its remedy.

INJURIES FROM ACCIDENT.

1. Bleeding from wounds.
2. Bruises and burns.

} How treated.

ACUTE DISEASES.

1. Symptoms of their approach.
2. Kinds of treatment needed.

MEDICINES.

1. Their uses.
2. Their abuses.

ARITHMETIC.

DEFINITIONS.

1. *Define and give Example of Each:*

1. A unit. 2. A number. 3. An integer. 4. A concrete number. 5. An abstract number. 6. An odd number. 7. An even number. 8. Like numbers. 9. Unlike numbers. 10. Unit of a number. 11. A scale. 12. Uniform scale. 13. Varying scale. 14. Decimal scale. 15. Notation. 16. Numeration.

ADDITION.

1. *Define and Illustrate.*

1. Addition. 2. Sum or amount. 3. Sign of addition. 4. Sign of equality.

2. *Rules.*

1. For writing numbers to add. 2. For adding, when sum of each column is less than 10. 3. When sum of any column is 10 or more. 4. For proof.

NOTE TO TEACHER.—The teacher should now drill the class in mental and written work until each pupil can write and add any numbers accurately and rapidly.

SUBTRACTION.

1. *Define and Illustrate.*

1. Subtraction. 2. Minuend. 3. Subtrahend. 4. Difference.

2. *Principles.*

1. In regard to subtracting like and unlike numbers. 2. Minuend equals what.

3. *Rules.*

1. For writing numbers for subtraction. 2. For subtracting when all figures in minuend exceed corresponding figures in subtrahend. 3. For subtracting when a figure in minuend is smaller than corresponding figure in subtrahend. 4. For proof of work.

NOTE TO TEACHER.—The teacher should now drill the class in mental and written work until each pupil can write and subtract any numbers accurately and rapidly.

MULTIPLICATION.

1. *Define and Illustrate.*

1. Multiplication. 2. Multiplicand. 3. Multiplier. 4. Product. 5. Sign of Multiplication. 6. Factors. 7. Prime numbers. 8. Composite numbers.

2. *Principles.*

1. For writing the numbers. 2. When multiplier is 10, 100, 1000, etc. 3. When multiplier is an abstract number. 4. Product to be like the multiplicand.

3. *Rules.*

1. For writing the numbers. 2. For multiplying by units. 3. For multiplying by higher order than units. 4. For proof by subtraction.

4. *Rules for Short Methods.*

1. When multiplier is composite number. 2. When either term has ciphers at the right. 3. When part of the multiplier is repeated. 4. When either term is a number of 9's.

NOTE TO TEACHER.—The teacher should now drill the class in mental and written work until each pupil can write and multiply any numbers accurately and rapidly.

DIVISION.

1. *Define and Illustrate.*

1. Division. 2. Dividend. 3. Divisor. 4. Quotient. 5. Remainder. 6. Sign of division. 7. Relation of division to subtraction.

2. *Principles.*

1. Relation of division to multiplication. 2. Relation of division to subtraction. 3. Denomination of the quotient. 4. Denomination of the remainder. 5. Effect of multiplying or dividing both dividend and divisor by the same number.

3. *Rules.*

1. For writing the numbers. 2. For short division. 3. For long division. 4. For proof. 5. For dividing by factors. 6. When divisor is 10, 100, 1000, etc. 7. When divisor ends with one or more ciphers. 8. When divisor is a convenient part of 10, 100, 1000, etc.

NOTE TO TEACHER.—The teacher should now drill the class in mental and written work until each pupil can write and divide any numbers accurately and rapidly.

FACTORING.

1. *Definitions.*

1. Factor. 2. Prime factor. 3. Common factors of two or more numbers.

2. *Rules.*

1. To resolve a composite number into its prime factors. 2. To find the common factors of two or more numbers.

3. *Drill thoroughly by examples both mental and written.*

CANCELLATION.

1. *Define Cancellation.*
2. *When is Cancellation used.*
3. *Drill thoroughly by examples both mental and written.*

DIVISORS.

1. *Definitions.*
   1. Divisor. 2. Common divisor. 3. Greatest common divisor.
2. *Rules.*
   1. By factoring. 2. By division.
3. *Illustrate by examples both mental and written.*

MULTIPLES.

1. *Definitions.*
   1. Multiple. 2. Common multiple. 3. Least common multiple.
2. *Rules.*
   1. By factoring. 2. By division.
3. *Illustrate by Examples both Mental and Written.*

FRACTIONS.

1. *A Fraction.*
   1. Definition. 2. Use. 3. How expressed. 4. Illustrate by examples.
2. *Numerator.*
3. *Denominator.*
   1. Definition.
   2. Why so called.
   3. Denotes what.
   4. Examples.
4. *Proper Fractions.*
5. *Improper Fractions.*
6. *Simple Fractions.*
7. *Compound Fractions.*
8. *Complex Fractions.*
9. *Decimal Fractions.*
10. *Mixed Numbers.*
    1. Definition.
    2. Why so called.
    3. Examples.

REDUCTION OF FRACTIONS.

1. *Principles.*
2. *Analysis.*
3. *Rules.*
4. *Mental Examples.*
5. *Written Examples.*

1. Whole or mixed numbers reduced to simple fractions.
2. Improper fractions reduced to mixed numbers.
3. Simple fractions reduced to higher terms.
4. Simple fractions reduced to lower or lowest terms.
5. Fractions reduced to common denominator.
6. Compound fractions reduced to simple ones.

ADDITION OF FRACTIONS.

1. *Ppinciples.* *In regard to Denominator.*
2. *Analysis.*
3. *Rules.*
   1. For adding simple fractions.
   2. For adding compound fractions.
   3. For adding mixed numbers.
4. *Mental Examples.*
5. *Written Examples.*

SUBTRACTION OF FRACTIONS.

1. *Principles.* *In regard to Denominator.*
2. *Analysis.*
3. *Rules.*
   1. For subtracting simple fractions.
   2. For subtracting compound fractions.
   3. For subtracting mixed numbers.
4. *Mental Examples.*
5. *Written Examples.*

MULTIPLICATION OF FRACTIONS.

1. *Principles.*
2. *Analysis.*
3. *Rules.*
4. *Mental Examples.*
5. *Written Examples.*

1. Fraction × an integer.
2. Integer × a fraction.
3. Fraction × a fraction.
4. Integer × mixed number.
5. Mixed number × a fraction.

DIVISION OF FRACTIONS.

1. *Principles.*
2. *Analysis.*
3. *Rules.*
4. *Mental Examples.*
5. *Written Examples.*

1. Fraction ÷ an integer.
2. Integer ÷ a fraction.
3. Fraction ÷ a fraction.
4. Mixed number ÷ a fraction.
5. Fraction ÷ a mixed number.

COMPLEX FRACTIONS.

1. *Definition.*
2. *How Expressed.*
3. *How Changed to Simple Forms.*
4. *How Changed to Simple Fractions.*
5. *How Changed to Fractions having any given Denominator.*
6. *Mental Examples.*
7. *Written Examples.*

DECIMAL FRACTIONS.

1. *Decimals.*
   1. Derivation of the word. 2. Definition of "Decimal Fractions." 3. Why applied to this class of fractions.
2. *Three Ways of Expressing Decimals.*
   1. By words. Give examples. 2. By numerator and denominator. Give examples. 3. By use of "Decimal Point." Examples.
3. *Value of Decimal Figures.*
   1. How increased. Examples. 2. How diminished. Examples. 3. How determined. Examples. 4. Starting point in notation and numeration. Examples.

REDUCTION OF DECIMALS.

1. *Principles.*
2. *Analysis.*
3. *Rules.*
4. *Mental Examples.*
5. *Written Examples.*

1. Decimals reduced to a lower or higher order.
2. Decimals reduced to common fractions.
3. Common fractions reduced to decimals.

ADDITION OF DECIMALS.

1. *Principle.* *For number of Decimals placed in the Sum.*
2. *Analysis.*
3. *Rules.*
4. *Mental Examples.*
5. *Written Examples.*

1. For writing the numbers.
2. For adding the numbers.
3. For pointing the decimals.

SUBTRACTION OF DECIMALS.

1. *Principle.* *For number of Decimals in Remainder.*
2. *Analysis.*
3. *Rules.*

1. For writing the numbers.
2. For subtracting the numbers.
3. For pointing decimals.

4. *Mental Examples.*
5. *Written Examples.*

MULTIPLICATION OF DECIMALS.

1. *Principle.* *For number of Decimals in the Product.*
2. *Analysis.*
3. *Rules.*

1. For writing the numbers.
2. For multiplying the numbers.
3. For pointing the decimals.

4. *Mental Examples.*
5. *Written Examples.*

DIVISION OF DECIMALS.

1. *Principle.* *For number of Decimals in Quotient.*

2. *Analysis.* { 1. For writing the numbers. 2. For dividing the numbers.
3. *Rules.* { 3. For pointing the decimals.
4. *Mental Examples.*
5. *Written Examples.*

COMPOUND DENOMINATE NUMBERS.

1. *Definitions.*
2. *When Used.*
3. *Examples.*

{ 1. Denominate number. 2. Simple number. 3. Compound denominate numbers. 4. Scale. 5. Standard. 6. Space. 7. Solid. 8. Surface. 9. A line. 10. A pendulum.

THE MEASURE OF LENGTH.

1. *Long Measure.*
2. *Surveyor's Measure.*
3. *Mariner's Measure.*

{ 1. Its use. 2. Standard unit. 3. Table. 4. Origin. 5. Examples illustrating each.

THE MEASURE OF AREA.

1. *Definitons.*

1. An angle.
2. A vertex.
3. A plane surface.
4. A plane figure.
5. A square.
6. Area.
7. A parallelogram.

} 1. Define. 2. When used. 3. Illustrate by examples.

2. *Square Measure.*
3. *Surveyor's Measure.*

{ 1. Its use.
2. Standard unit.
3. Origin of table.
4. Table.
5. Examples. { Mental. Written.

THE MEASURE OF VOLUME.

1. *Cubic Measure.*
2. *Liquid Measure.*
3. *Apothecaries' Fluid Measure.*
4. *Dry Measure.*

- 1. Its use.
- 2. Standard unit.
- 3. Table.
- 4. Origin of the table.
- 5. Examples. { *a.* Mental. *b.* Written.

TABLE OF WEIGHT.

1. *Troy Weight.*
2. *Apothecaries' Weight.*
3. *Avoirdupois Weight.*

- 1. Its use.
- 2. Standard unit.
- 3. Tables.
- 4. Origin of tables.
- 5. Examples. { *a.* Mental. *b.* Written.

MISCELLANEOUS MEASURES.

1. *Measure of Time.*

   1. Definition of "Time." 2. Table. 3. Origin of terms used. 4. How centuries are counted. 5. Leap year explained. 6. Mental examples. 7. Written examples.

2. *Circular Measure.*

   1. Circle defined and illustrated. 2. Circumference defined and illustrated. 3. Arc defined and illustrated. 4. Quadrant defined and illustrated. 5. Radius defined and illustrated. 6. Diameter defined and illustrated. 7. Use of circular measure. 8. Standard unit. 9. Table. 10. Examples: *a.* Mental. *b.* Written.

3. *Measure of Money.*

   1. Money, coin, ingot, bullion, paper money, treasury notes, bank notes and nickle, defined and explained.

2. U. S. Money.
   1. Use. 2. Standard unit. 3. Tables. 4. Examples: Mental. Written.
3. English money.

REDUCTION.

1. *Reduction Ascending.*
2. *Reduction Descending.*
   1. Definition. 2. Uses. 3. Rules. 4. Mental and written examples under each table of compound numbers worked and analyzed.

3. *Reduction of Denominate Numbers.*
   1. Ascending.
   2. Descending.
      1. Rules. 2. Mental and written examples worked and analyzed.

4. *Addition of Compound Numbers.*
5. *Subtraction of Compound Numbers.*
6. *Multiplication of Compound Numbers.*
7. *Division of Compound Numbers.*
8. *Addition of Denominate Numbers.*
9. *Subtraction of Denominate Numbers.*
   1. Mental and written examples under each rule worked and analyzed.
   2. Rules.

LONGITUDE AND TIME.

1. *Difference in Time.*
2. *Difference in Longitude.*
   1. Explain the cause.
   2. Table.
   3. Mental and written examples worked and analyzed.
   4. Rules.

PERCENTAGE.

1. *Per cent.*
   1. Origin of the word. 2. Definition. 3. Sign.
2. *Rate Per cent.*
   1. Definition. 2. Meaning of "Rate."

3. Three ways of expressing.

3. *Base.*
4. *Percentage.*
5. *Amount.*
6. *Difference.*
7. *Rate of Base.*
8. *Rate of Percentage.*
9. *Rate of Amount.*
10. *Rate of Difference.*

1. Definition.
2. Illustrate by examples.
3. Abbreviations.
4. Relation of each to the base.

APPLICATIONS OF PERCENTAGE.

1. *B. and R. given to find P.*
2. *B. and P. given to find R.*
3. *R. and P. given to find B.*
4. *A. and R. given to find B.*
5. *D. and R. given to find B.*

1. Mental problems worked and analyzed. 2. Rules made. 3. Written problems worked both analytically and practically.

6. *Profit and Loss.*
   1. Cost price.
   2. Selling price.
   3. Gain or loss.

   a. Definition. *b.* Illustrate by examples. *c.* Mental problems. *d.* Written problems.

7. *Commission.*
   1. Agent.
   2. Factor or broker.
   3. Commission.
   4. Consignment.
   5. Consignor.
   6. Consignee.
   7. Base of Commission.
   8. Net proceeds.

   1. Definition.
   2. Illustrate by examples.
   3. Principle—Upon what is an agent entitled to commission?
   4. Mental problems.
   5. Written problems.
   6. Rule for Case I.
   7. Rule for Case II.

3. *Stocks.*

1. Company.
2. Partnership.
3. Corporation.
4. Firm.
5. Charter.
6. Capital.
7. Stock.
8. Shares.
9. Certificate of stock.
10. Par value.
11. Dividend.
12. Market value.
13. Premium.
14. Discount.
15. Installment.
16. Assessment.
17. Gross earnings.
18. Net earnings.
19. Surplus.
20. Base of percentage.

} 1. Definition. 2. Illustrated by examples. 3. Mental problems. 4. Written problems.

9. *Insurance.*

1. Fire.
2. Marine.
3. Hull.
4. Cargo.

} *a.* Policy. *b.* Insurer. *c.* Underwriter. *d.* Policy Holder. *e.* Premium. *f.* Insurance Company.

5. Life. { *a.* Continued Premium Policy. *b.* Single Payment Policy. *c.* Endowment Policy. *d.* Table of Mortality. *e.* Ratio of Insurance. *f.* Profits of Insurance.

} 1. Definition 2. Illust. by examples. 3. Written Problems. 4. Rules.

10. *Revenue.*

1. Revenue.	
2. Direct Tax.	
3. Indirect Tax.	
4. Poll Tax.	
5. Property Tax.	
6. Income Tax.	
7. Excise Tax.	
8. Real Estate.	
9. Personal Property.	
10. Assessor.	
11. Collector.	1. Definition.
12. Assessment.	2. Illustrate by Examples.
13. Specific Duty.	3. Written Problems.
14. Ad Valorum Duty.	4. Rules.
15. Port of Entry.	
16. Draft.	
17. Tare.	
18. Leakage.	
19. Breakage.	
20. Gross Weight.	
21. Net Weight.	
22. Invoice.	
23. Appraiser.	
24. Tariff.	

INTEREST.

1. *Definitions.*

1. Simple interest. 2. Annual interest. 3. Compound interest. 4. Principal. 5. Rate per cent. 6. Amount.

2. *Legal Rate.*

1. When mentioned in the note. 2. When not mentioned in the note.

3. *Problems.*

1. Make and explain the six per cent rule. 2. Mental problems under six per cent rule. 3. Written problems under six per cent rule. 4. Rule for any per cent.

5. P. R. and T. given to find I.
6. P. R. and T. given to find A.
7. I. R. and T. given to find P.
8. I. P. and R. given to find T.
9. I. P. and T. given to find R.
10. A. T. and R. given to find P.

} 1. Mental problems. 2. Written problems. 3. Principles involved. 4. Rules made and analyzed.

4. *Promissory Notes.*

1. Definition. 2. Uses. 3. Form. 4. Essential properties. 5. When due. 6. To whom payable. 7. When invalid. 8. Joint or several. 9. Payable in what. 10. When payable. 11. When to draw interest. 12. Payer. 13. Payee. 14. Indorser. 15. General indorsement. 16. Special indorsement. 17. Effect of indorsement. 18. Partial payments. 19. Rule for computing. 20. Rule when a payment is less than the amount of interest then due. 21. Written problems. 22. Write notes with indorsed payments and compute them.

DISCOUNT.

1. *Definitions.*

1. Discount. 2. Face of note. 3. Present worth. 4. A bank. 5. Bank note. 6. Bankable note. 7. Days of grace. 8. Maturity. 9. Proceeds. 10. Protest.

2. *True Discount.*
3. *Bank Discount.*

} 1. Principles involved. 2. Mental problems. 3. Rules. 4. Written problems.

EXCHANGE.

1. *Definitions.*

1. Bill of exchange. 2. Drawer. 3. Drawee. 4. Payee. 5. Buyer. 6. Domestic bill. 7. Foreign bill. 8. A draft. 9. Payable at sight. 10. A time bill. 11. Bonds. 12. Government bonds. 13. At premium. 14. At discount.

2. *Examples.*
   1. Mental problems. 2. Principle involved. 3. Rule for sight draft. 4. Rule for time draft with interest. 5. 5. Written problems.

EQUATION OF PAYMENTS.

1. *Definitions.*
   1. Equation of payments. 2. Equated time.
2. *Principles involved.*
   1. Measure of the use of money. 2. How offset a payment made before due.
3. *Mental Problems.*
4. *Rule.*
5. *Written Problems.*

RATIO.

1. *Definitions.*
   1. Ratio. 2. Proportion. 3. Antecedent. 4. Consequent. 5. Couplet. 6. Number. 7. Simple ratio. 8. Compound ratio. 9. Inverse ratio.
2. *Principles.*
   1. Value of a ratio. 2. Expressing a ratio.
3. *Examples.*
   1. Mental problems worked and analyzed. 2. Written problems worked.

PROPORTION.

1. *Definitions.*
   1. Simple proportion. 2. Compound proportion. 3. Extremes. 4. Means.

2. *Principles Involved.*
3. *Mental Problems Worked and Analyzed.*
4. *Rules.*
   1. For stating the proportion. 2. For working the problems.
5. *Written Examples in Simple Proportion.*
6. *Examples in Compound Proportion Separated into Simple Proportion examples.*
7. *Written Examples in Compound Proportion.*

1. *Definitions.*
   1. Simple partnership. 2. Partnership with time. 3. Company. 4. Partners. 5. Capital. 6. Joint stock. 7. Stock in trade. 8. Silent partners.
2. *Principles Involved.*
3. *Mental Examples Worked.*
4. *Rules.*
   1. For working without time. 2. For working with time.
5. *Written Examples.*

PHYSICAL GEOGRAPHY

PART I.

THE EARTH IN GENERAL.

I. *Geography.*
- *a.* Derivation.
- *b.* Definition.
  1. Mathematical.
  2. Physical.
  3. Political.

II. *The Universe.*
1. Meaning of term.
2. Laplace's Nebular Hypothesis.
3. Extent of our knowledge of it.

III. *Heavenly Bodies Grouped.*
1. Solar System.
   - *a.* Sun.
   - *b.* Planets.
   - *c.* Comets.
2. Fixed Stars.
   - *a.* Distance.
   - *b.* Nature.

IV. *Nebulae.*—Appearance—Number.

V. *Magnitude of Heavens.*
1. Extent of Solar System.
2. Distance of Fixed Stars.
3. Distance of Visible Stars.

VI. *Insignificance of the Earth.*
1. The Earth in the Solar System.
2. Solar System in Sun Group.
3. Sun Group in the Heavens.
4. Star Clusters in Firmament.

VII. *Solar System—Extent.*
1. Sun.
2. Primary Planets—Number.
3. Satellites, Number and Relation to Primaries.
4. Asteroids, Number and Size.
5. Grouping of Planets.
6. Comets. Nature—Size.

VIII. *Primary Planets.*
- 1. Position.
- 2. Comparative.
  - 1. Size.
  - 2. Density.
  - 3. Distances.
- 3. Satellites.

IX. *Movements—Theory of in Reference to Cause.*
- 1. Rotary Motion.
  - *a.* Direction.
  - *b.* Comparative Time.
    - Four proofs of the earth's Rotation.
- 2. Revolution around the Sun.
  - Planets.
  - Asteroids.
  - Satellites.
  - *a.* Direction.
  - *b.* Comparative Time.
  - *c.* Revolution of Comets Described in General.
  - *d.* Two positive proofs of the Earth's Revolution.
- 3. Planetary Motion.
  - *a.* Variation in Revolution.
  - *b.* Variation in Rotation.
  - *c.* Comparative time of Revolution.
- 4. Rotation on axis.
  - *a.* Position.
  - *b.* Effects of Inclination.
  - *c.* Degree of Inclination.
  - *d.* Compare the planets in respect to the above.
- 5. Orbits Compared—Definition.

X. *Siderial and Tropical years.*
- 1. Definition—Difference.

XI. *Form of the Earth.*
- 1. How produced.
- 2. Four proofs of its Rotundity.
- 3. Two proofs that it is an oblate spheroid.
- 4. Proves what.

XII. *Volume of Globe.*
- 1. Equatorial, Polar, and Mean Diameter.
- 2. Equatorial Circumference.
- 3. Solid Contents.
- 4. Extent of Surface.
- 5. Specific Gravity.

XIII. *Circles — Definition.*
- 1. Circles of Position.
  - *a.* Great Circles.
    - 1. Equator.
    - 2. Meridians.
  - *b.* Parallels.
- 2. Climatic circles.
  - *a.* Mark what.
    - 1. Parallels.
      - *a.* Tropics —Position due to what.
      - *b.* Polar Circles. Relation to Tropics.
    - 2. Ecliptic —marks what. Relation to Tropics and Equator.
  - *b.* Number and width.

XIV. *Measurement of Surface.*
- 1. Latitude.
  - Number of degrees.
  - Number of parallels.
  - Length—Exception.
- 2. Longitude.
  - Number of Degrees.
  - Number of Meridians.
  - Variation in length.
  - Prime Meridians.

XV. *Horizon—Cardinal Points Named.*

PART II.

THE LAND.

I. *The Earth.*
- 1. Original state—Proof.
- 2. Thickness of Earth's Crust.
- 3. Central mass.
  - *a.* Condition.
  - *b.* Evidences of the same.
    - Volcanoes.
    - Earthquakes.
    - Geysers, hot springs, etc.
    - Elevation or sinking of Earth's Crust.

II. *Substance.*

1. Elements forming the Earth.
   a. Number. *b.* Principal ones.
2. Elements forming Crust of the Earth.
   a. Number. *b.* Principal ones.

III. *Rocks.*—Distribution.

1. Origin of Rocks.
   a. Igneous Rocks. *b.* Aqueous Rocks. *c.* Metamorphic Rocks.
2. Classification according to condition.
   a. Stratified Rocks—Aqueous.
   b. Unstratified Rocks—Igneous.
      1. Plutonic. 2. Trap. 3. Volcanic. 4. Metamorphic.
3. Classification in general.
   a. Fossiliferous Rocks. *b.* Non-Fossiliferous Rocks.

IV. *Geological Time.*

1. Azoic Time—Azoic Age.
2. Palaeozoic Time.
      1. Age of Mollusks. 2. Age of Fishes. 3. Carboniferous Age.
3. Mesozoic Time—Age of Reptiles.
4. Cenozoic Time—Age of Mammals.
5. Present Time—Age of Man.

Trace transitions and general development in animal and vegetable forms.

V. *Changes taking place.*

1. By Atmospheric movements.
2. By Frost.
3. By Rivers.
4. By Ocean Currents.
5. By Ocean Waves.
6. By Interior Heat.
7. By Agency of Man.

Examples.
Important changes.
Ultimate effect.
Permanent effect.

VI. *Extent and Distribution of Land.*

1. Continents.
   - *a.* Division of Earth into hemispheres.
   - *b.* Division of Earth into continents.
   - *c.* Proportion of land and water.
   - *d.* Describe form and distribution of each.

2. Islands.
   - *a.* Continental.
     1. American Chain.
     2. Asiatic Chain.
     3. Australian Chain.
     4. British Isles.
   - *b.* Oceanic.
     1. Polynesian Group.
     2. Sandwich Island Group.
     3. Volcanic Islands.
     4. Coral Islands.
     5. Fringing Reefs.
     6. Barrier Reefs.
     7. Encircling Reefs.

VII. *Continents.*

1. Contrasts.
   - *a.* Northern and Southern worlds.
     1. Arrangement of continents.
     2. Position of Northern and Southern Groups.
   - *b.* Eastern and Western worlds.
     1. Relative position of pairs.
     2. Relative extent of Old and New worlds.
     3. Relative areas.
     4. Absolute areas in square miles.
   - *c.* Continental and oceanic worlds.
     1. Contrasts in each.
     2. Relative amount of land in each hemisphere.

2. Outlines.
   - *a.* General figure of continents.
     1. Fundamental forms of great masses.
     2. Figure of Australia.
     3. Direction of the greatest elongation.

4. Compare all the continents.

b. Continental Outlines.

1. Influence on extent of coast.
2. Influence on climate.
3. Influence on society development.
4. Importance of irregularities.

c. Amount of indentation of continents.

1. Comparison of coast lines.
2. Amount of coast line to each square mile of area.

RELIEF FORMS.

VIII. *Mountains.*

1. Appearance.
2. Mountain Chains.
   a. Form and structure. *b*. Crests and passes.
3. Mountain systems.
   a. Consist of what. *b*. Breadth, slope, and direction.
4. Formation of Mountains.
   a. Upheaval produced how.
5. Mountains formed by folding.
   a. Character, crest, gaps—examples.
6. Mountains formed by fracture.
   a. Ranges and crests—examples.
7. Utility of mountains.
8. Effect on civilization.

IX. *Plateaus*—Above what.

1. Situation of Plateaus described—Examples.
2. Surface of Plateaus.
   a. Character—Differ from plains.
3. Elevation of Plateaus.
   a. Plateaus of 1st order.
   b. Plateaus of 2d order.

c. Plateaus of 3d order.

4. Importance of Plateaus in structure of Continents.
5. Character of Plateaus—Soil.

X. *Plains.*

1. Extent of Plains.
   - *a.* Position of great Plains.
   - *b.* Proportion to area of Continents.
2. Surface of Plains.
   - *a.* Alluvial Plains.
   - *b.* Marine Plains.
   - *c.* Undulating Plains.

   } How formed. Nature of soil.
3. Altitude of Plains.
4. Area of principal Plains.
5. Productiveness of Plains.
   - *a.* Treeless plains named how in { North America. South America. Eastern Europe. Asia. Western Europe.
   - *b.* Marine Plains. *c.* Undulating Plains. *d.* Alluvial Plains.

XI. *Valleys.*

1. Valleys among mountain systems.
2. Valleys among mountain ranges.
3. Valleys in plains.

} Origin. Example.

XII. *North America*—Relief forms.

1. Rocky mountain system.
   - *a.* Average height.
   - *b.* Ranges constituting it. { 1. Plateau of C. America. 2. Plateau of Mexico. 3. Plateau of Western U. S.
2. Appalachian system.
   - *a.* Average height.
   - *b.* Ranges constituting it. { 1. Height of land. 2. Arctic Plateau. 3. Arctic Plain. 4. Mississippi Valley.

XIII. *South America—Relief Forms.*

1. Andes System.
   a. Andes of Patagonia. *b.* Andes of Chili. *c.* Bolivia and Peru. *d.* Equador and Colombia.
2. Brazilian System.
   a. Table land of Brazil. *b.* Plateau of Guiana. *c.* Llanos of the Orinoco. *d.* Forests of the Amazon. *e.* Pampas of the La Plata.

XIV. *Europe—Relief Forms.*

1. System of Northern Europe.
   a. British Mountains.
   b. Scandinavian Mountains.
2. Alpine System.
   a. Spanish Mountains.
   b. Italian Mountains.
   c. Sardo-Corsican Mountains.
   d. Alpine Mountains Proper.
   e. Mountains of Austria and Turkey.
   f. Caucasian Mountains.

} Height. Direction. Breadth. Principal Peaks. Important Passes. Mountain Ranges. Slope.

3. System of the Urals.
4. Low Plains. { 1. Great Northern Plain. 2. Great Southern Plain. } { Width. Slope. Fertility. }

XV. *Asia—Relief Forms.*

1. Asia Minor System.
2. Hindo-koosh System.
3. Ranges in the Peninsula.
4. Assam System.
5. Thian-Shan System.
6. Altai System.
7. Australian System.

} Conditions existing as in Relief Forms of Europe.

8. Table Lands—Character—Extent.
   a. Table land of Asia Minor and America.
   b. Table land of Arabia.
   c. Table land of Persia.
   d. Table land of Central Asia.

e. Table land of Thibet.
f. Table land of India.

9. Plains—Character—Extent.
   a. Steppes and plains of Siberia.
   b. Lowland of China.
   c. Low plains of Turan.
   d. Plains of Farther India
   e. Plain of Hindoostan.
   f. Syrian Plain.

XVI. *Africa—Relief Forms.*

1. Atlas system.
2. Guinea system.
3. Cape system.
4. Abyssinian system.
5. Eastern system.

} Conditions existing as in Relief Forms of Europe.

6. Plains. { The Sahara. { Character. / Extent. / Area.
   Central Plain. }

7. Plateaus. { Abyssinian Plateau. { Height.
   South African Table-land. { Extent. }

VOLCANIC PHENOMENA.

XVII. *Volcanoes.*

1. Lines of arrangement—Illustrate.
2. General Distribution—where—exceptions.

XVIII. *Volcanic Zones*—Number—Extent—Principal ones.

1. Pacific Zone..
2. Atlantic Zone.
3. Greatest intensity of Volcanic Force.
4. Volcanoes not in Zones.

XIX. *Volcanic Action.*

1. Nature and causes.
2. Primary source.
   a. Upheaval of mountain chains.

b. Where most intense.

c. Strata most deeply broken.

d. Folding and breaking of earth's crust.

XX. *General Description.*

1. Formation of Volcanoes.

a. Volcanoes described.

b. Volcanic Cones—Formation—Differences.

1. Examples. { Volcanoes of Iceland. / Volcanoes of Andes. / Volcanoes of Sandwich Islands. / Vesuvius and Etna.

2. Products of Volcanoes.

a. Ashes, sand, and Lava. { Appearance. / Process of Cooling.

3. Amount of matter ejected from. { Zorullo. / Hecla. / Hawaii. / Vesuvius.

4. Number of Volcanoes. Height.

5. Classification of Volcanoes. { 1. Active. / 2. Intermittent. / 3. Semi-Extinct. / 4. Extinct.

a. Locate and name principal ones of each class

6. History of several noted Volcanoes.

SUBORDINATE VOLCANIC PHENOMENA.

XXI. *First Class.*

1. Geysers.
2. Mud Volcanoes.
3. Fields of Fire.
4. Solfataras.

} Define in full Character. Eject what

XXII. *Second Class*—Earthquakes.

1. Kinds of motion. { Undulatory. / Vertical. / Rotary. } Character of movement.

a. Velocity. *b.* Intensity. *c.* Sounds. *d.* Effects.

2. Duration of Earthquakes—Examples.
3. Distribution of Earthquakes.
   a. Earthquake areas
   b. Connection between them and volcanoes.
4. Theory of Earthquakes.
5. History of noted ones.

XXIII. *Third Class*—Caverns and Arches defined.

1. Volcanic Caves.
2. Limestone Caves.
3. Zoolitic Caverns.
4. Gas Caverns.
5. Mammoth Cave.
6. Natural Arches.

} Where found. Character and formation. Prominent ones described.

MINERAL PRODUCTIONS.

XXIV. *Minerals.*

1. Building materials. { Granite. Sandstone. Calcareous rocks. Slate. } { Distribution. Quantities. }
2. Precious stones—Distribution—Comparative values.
   a. Diamonds—Rubies—Sapphires—Emeralds—Opals—Garnets—Amethysts—Agates.
3. Metals—Localities found—Comparative values—Quantities found in—Specific gravity of principal ones.
   a. Gold—Silver—Platinum—Iron—Copper—Tin—Lead—Mercury—Zinc—Nickel—Antimony—Bismuth—Manganese—Arsenic.
4. Coal—Distribution—Theory of Formation.
   a. Anthracite. *b.* Bituminous.
5. Rock Salt and Sulphur—Distribution.

PART III.—THE WATER.

SECTION I.

CONTINENTAL WATERS.

I. *Water.*

a. Composition. *b.* Properties.

1. Maximum density.
2. Effect of above on freezing.
3. Specific Heat.
4. Heat absorbed or emitted during change of state.
5. Solvent power.
6. Main food of Plants and Animals.

II. *Springs.*

1. Classification in respect to form.

a. Constant.
b. Periodical.
c. Temporary.

} Causes.
Dependent on what.
Reservoirs defined.
How effected by reservoirs.

2. Classification in respect to nature.

a. Cold Springs.
b. Thermal Springs.

} What temperature.
Where found.

3. Classification in respect to reservoirs.

a. Calcareous Springs.
b. Silicious Springs.
c. Sulphurous Springs.
d. Chalybeate Springs.
e. Saline Springs.
f. Ascidulous Springs.
g. Petroleum Springs.
h. Bituminous Springs.

} 1. Where found.
2. Properties.
3. Nature of reservoir.

4. Artesian Wells—Define—Causes—where found.

5. Geysers—Theory of—Regions. { In Iceland. / In New Zealand. / In Montana and Wyoming.

III. *Rivers—Sources—Utility.*

1. Formation of River Systems.
   a. Direction of flow. *b.* Position of main stream. *c.* Examples of Mississippi system. *d.* River basin *e.* Water shed. *f.* Bifurcation. *g.* Cañons. *h.* Deltas. *i.* Estuaries. *j.* Velocity—causes.
2. Amount of Water.
   a. Depends on what. *b.* Influence of forests.
3. Erosion.
   a. In upper course. *b.* In middle course. *c.* In lower course.
4. Transportation of earthy particles.
5. Deposits—Examples of Mississippi, Ganges, and others.
6. Cataracts—Cascades—Rapids—Examples of each.
7. Classification { 1. Continental. / 2. Oceanic. } Definition. Examples.
8. Classification into systems. { 1. Arctic system. / 2. Pacific system. / 3. Atlantic system. / 4. Indian system. } Principal rivers. Comparative l'gth What drained. Sources. Character of land drained.

IV. *Lakes.*

1. Geographical Distribution.
   a. North American system
   b. System of Northern Europe and Asia.
   c. System of Southern Europe and Asia.
   d. African systems.
   e. South American systems.

   } Location. Extent. Altitude. Noted for what. Sources of what.

2. Classification.

a. Neither outlet nor inlet. *b.* Inlets but no outlets.	Salt.	Occur where. Origin of salt lakes. Transparency and depths of lakes. [lakes. Advantages of Exam. of each.
c. Outlets but no inlets. *d.* Outlets and inlets.	Fresh.	

SECTION II.—OCEANIC WATERS.

V. *Oceans.*

1. Composition—Temperature—Color—Pressure.
2. Marine Life.
   a. Animal Life. *b.* Vegetable Life. *c.* Examples of each.
3. Bottom of the Sea.
   a. Nature of its surface. *b.* Why covered with water.
4. Ocean Basins.
   a. Atlantic—Pacific—Indian—Arctic—Antarctic.
   b. Form and size.
5. Articulation with coasts.
   a. Inland seas. *b.* Border seas. *c.* Gulfs and bays.
6. Islands.

a. Indian. *b.* Atlantic. *c.* Pacific.	Number.	Examples.

7. Comparative depth of each and combined average depth.

OCEANIC MOVEMENTS.

VI. *Waves—Causes.*

1. Description of wave movement.
2. Advance—Swell—Size—Force—Velocity—Breakers.
3. Depth agitated—Distance of crests.
4. Earthquake waves—Noted ones mentioned.

VII. *Tides—Theory of.*

1. Flood and ebb tides.
2. Interval between two successive high tides.
3. Hour of high and low tides on two successive days.
4. Comparative influence of Sun and Moon.
   - *a.* Difference between lunar and solar tides.
5. Tides of lakes—Derivative tides.
6. Tidal wave—Course—Causes—Produced where.
   - *a.* Course if Globe were one vast ocean.
   - *b.* Continents how modify course.
   - *c.* Velocity and regularity of movement.
   - *d.* Explanation of co-tidal lines.
   - *e.* Tidal wave of Pacific. — Course in each.
   - *f.* Tidal wave of Atlantic. — Tidal wave in mid ocean.
   - *g.* Tidal wave of Indian. — Progress in shallow water, deep water. Course around British Isles
7. Height of tides.
   - *a.* Variation of level. — Mid-ocean. On continents.
   - *b.* Results of difference. — Races. Whirlpools.

VIII. *Currents—Causes.*

1. Extent—Position relative to surface.
2. Series of currents.
   - *a.* Cold and warm currents—where found.
   - *b.* Direction of equatorial and polar currents.
   - *c.* Causes of deflection.
3. Ocean divisions.
   - *a.* Currents of the Pacific.
   - *b.* Currents of the Atlantic.
   - *c.* Currents of the Indian.
   - *d.* Currents of the Polar.

Describe each in respect to course, breadth, velocity, utility, and climatic effect.

4. Classification { Constant. / Periodical. / Temporary. } Causes. / Examples.

PART IV.

THE ATMOSPHERE.

I. *The Air.*

1. Composition—Elasticity.
2. Pressure. { Amount. / Weight—Elevation. / How ascertained. } Form. / Density.
3. Temperature.
   - *a.* Temperature of lands compared with oceans.
   - *b.* Temperature of air—depends on what.
   - *c.* Mean temperature.
   - *d.* Isothermal lines.
     1. Difference between them and geographical.
     2. Locate them.

II. *The Winds.*

1. Origin of winds.
   - *a.* Conditions of equilibrium of air.
   - *b.* Disturbances of equilibrium of air.
2. Atmospheric circulation.
   - *a.* Ascending currents.
   - *b.* Polar currents.
   - *c.* Equatorial currents.
3. Direction of general currents.
   - *a.* Equatorial—Polar—Ascending.
   - *b.* Effect of earth's rotation.
   - *c.* Minor causes modifying direction.
4. Wind Zones—Number—Names and Position.
5. Zone of trades and calms.
   - *a.* Trade winds.
     1. Occur where regularly.

2. Place of beginning on oceans.
3. Velocity of trades of Indian ocean.

b. Equatorial calms.

1. Course of calm belt. 2. Breadth of calm belt. 3. Causes of disturbances. 4. Relation to trades.

c. Calms of the tropics.

1. Breadth of belts. 2. Relation to trades.

d. Trades and calms, change of position.

1. Caused how. 2. When farther north. 3. When farther south. 4. Position in regard to equator.

e. Land winds in general.

1. Character of trades on land.
2. Winds of the Sahara and Amazon plains.

6. Zone of variable winds.

a. Prevailing currents—character.

b. Starting point of polar winds.

1. Direction in North America, Europe, and Asia.
2. Approach to equator.
3. Effects of sun's advance northward.
4. Path of the trade currents to, and return.

7. Periodical winds—meaning.

a. Land and sea breezes—explanation in full.

b. Monsoons—Definition—Cause—Direction.

c. Regions.

1. Indian Ocean. 2. Gulf of Guinea. 3. Mexico and Caribbean Sea.

d. Local periodical.

1. Desert winds. 2. Etesian winds. 3. Simoon winds. 4. Khamsin winds. 5. Sirocco.

6. Whirlwind. 7. Mountain winds.

8. Storm winds sub-divided: Water spouts. Cyclones. Hurricanes. Typhoons. Tornadoes.
   - Causes.
   - Extent and period.
   - Aspects.
   - Progress.
   - Force.
   - Direction.
   - Effect.
   - Mention some taken place.

III. *Navigation Routes—Describe in General.*

1. From Europe to America.
2. United States to Europe.
3. New York to San Francisco.
4. United States to China.
5. Europe to India. Australia.

IV. *Humidity of Atmosphere.*

1. Evaporation.
   - *a.* Process—Capacity for absorbing vapor—Saturation.
   - *b.* Change from dry to moist air.
2. Dew point.
   - *a.* Explain process of collection.
   - *b.* Where most abundant—modifying causes.
3. Hoar frosts—explain.
4. Mists and fogs—prevail where.
5. Form of clouds: Cirrus and Cirro-Cumulus. Cumulus. Stratus. Nimbus.
   - *a.* Definition. *b.* Height.
6. Condensation.
   - *a.* Causes.
     1. Condensation due to what.
     2. Effect of passage of warm currents to cold regions.

3. Effect of passage of cold winds to warm regions.
4. Condensation by ascending currents.

b. Influence of relief and surface.

1. Influence of forests.
2. Influence of deserts.
3. Condensation by mountain chains.
4. Condensation on plateaus.

7. Distribution of rain.
   - *a.* Annual average of rainfall.
   - *b.* Variation from coast to interior.
   - *c.* Amount in Old and New Worlds.
   - *d.* Amount in temperate regions.
   - *e.* Amount in tropical regions.
   - *f.* Rainfall of the zone of calms.
   - *g.* Rainfall of the zone of trades.
   - *h.* Rainfall of the sub-tropical zones.
   - *i.* Rainfall of zone of variable winds.
   - *j.* Greater in northern or southern worlds.
   - *k.* Greater on mountains or plains.

8. Rainless districts. { Sahara. / Arabian and Persian deserts. / Mongolia. / West of Andes. / Vicinity of Rocky mountains.

9. Hail—Define—Theory of structure.

10. Snow—Define—where found. { Tropics. / Temperate regions. { Altitude of snow line.

11. Glaciers—Definition.
    - *a.* Nature and appearance.
    - *b.* Formation.
    - *c.* Motion—Erosion.
    - *d.* Transporting power.

e. Geographical distribution. { Most noted region. / Most extensive glaciers. / Icebergs.

12. Avalanches—Define—Tell all you can about them.

V. *Climate.*

1. Astronomical climate—Depends on what.

a. Distribution of heat on the globe.

1. General law.

2. Cause of unequal distribution.

b. Influence of earth's motions.

1. Motions of the earth.

. Position of vertical sun. { Comparative length of day and night. / Comparative heat in the hemispheres.

Vernal equinox. Summer solstice. Autumnal equinox.

3. Variations of temperature.

Variation in length by day.

Variation in heating power of sun.

Effect of long days and short nights.

Effect of short days and long nights.

4. Seasons. { In high latitudes. / In middle latitudes. / In tropical latitudes. / Time of highest and lowest temperature.

2. Physical Climate—Depends on what.

a. Latitude.

b. Diversities in surface of land.

1. Elevation above the sea.

2. Relation of mountains and plains to prevailing winds.

3. Slope of land.

c. Vicinity to sea.

d. Nature of soil. { Barren land. / Marshes and forests.

e. Influence of marine currents.

f. Amount of rain.

VI. *Electrical and Optical Phenomena.*

1. Electricity—Origin.
2. Atmospheric electricity. { Free. / Positive. / Negative.
3. Lightning and thunder—Cause and effect—Explanation.
4. St. Elmo's Fire.
5. The Auroıa Borealis.
6. Optical Phenomena.
7. Rainbow.
8. Color of sky at sunset.
9. Blue color of sky.
10. Corona.
11. Halo.
12. Parhelia and Paraselene.
13. Mirage of desert. { Fata Morgana. / Ignis Fatuus.
14. Magnetism.

a. Magnet. { Natural. / Artificial.

1. Magnetic attraction and repulsion.
2. Declination of needle.
3. Cause of needle pointing to the north.
4. Origin of earth's magnetism.
5. Declination or dip of needle.
6. Cause of the dip.

15. Meteorites and shooting stars.
16. Effect on sunlight if there were no atmosphere.

PART V. ORGANIC LIFE.

SECTION I.

PLANT LIFE.

I. *Plants*—Supply what.

1. Position occupied in the scale of existence.
2. Number of species—collectively called what.
3. Conditions requisite for plant growth.
   - *a.* Light—heat—moisture—nature of soil—slope.
4. Distribution of vegetation.
   - *a.* According to latitude, or horizontal distribution.
   - *b.* According to elevation, or vertical distribution.
   - *c.* Describe plants, in general, as they recede toward the poles.
5. Structure of plants—Describe in full.
6. Stages of development—Describe in full.
7. Processes of vegetable life.
   - *a.* Absorption.
   - *b.* Circulation.
   - *c.* Exhalation.
   - *d.* Respiration.

   } Describe in full. Illustrate by examples. Compare with animals.
8. Functions of different parts.
   - *a.* Roots—stems—branches—leaves.
9. Classification of plants.
   - *a.* Cryptogamia—flowerless plants—examples.
   - *b.* Phenogamia—flowering plants—examples.
10. Second classification.
    - *a.* Deciduous. *b.* Evergreen.
11. Different forms given and described.
    1. Simplest ferns, lichens, algae, and mosses.
    2. Form of ferns.
    3. Form of palms.

4. Form of trees with pointed leaves.
5. Form of myrtles.
6. Form of heaths.
7. Form of laurels.
8. Form of mangrove-trees.
9. Form of willows.
10. Form of foliage-trees.
11. Form of mimosas.
12. Form of mallows.
13. Form of grasses.
14. Form of lilies.
15. Form of bananas.
16. Form of bromelias.
17. Form of agaves and aloes.
18. Form of cactus-plants.
19. Form of orchids.
20. Form of zamias.
21. Form of arum-plants.

Horizontal zones of vegetation—**Number.**

a. Condition in regard to heat—light—moisture—soil.

b. Character of plants—trees—principal ones.

c. Tropical zone—between isotherms of 73°.
   1. Palms—bananas—spices—aromatic plants.

d. Sub-tropical zones—from isotherms of 73° to 68°.
   1. Laurels and myrtles.

e. Warm temperate zones—from isotherms of 68° to 55°.
   1. Evergreens.

f. Cold temperate zones—from isotherms of 55° to 41°.
   1. Deciduous.

g. Sub-arctic zones—from isotherms of 41° to 36.5°.
   1. Cone-bearing trees.

h. Polar zones—from isotherms of 36.5° to poles.

1. Lichens—mosses—alpine shrubs—saxifrages.

13. Vertical distribution of plants.

a. Between sea-level and 5,000 ft.
b. Between 5,000 ft. and 10,000 ft.
c. Between 10,000 ft. and 15,000ft.
d. Between 15,000 ft. and 20,000ft.

} Conditions observed as in horizontal distribution.

14. Land Regions. { Forests. Steppes. Deserts. } { Occur where. Depend on what. Character. }

15. Marine distribution—character.

16. Diffusion of plants. { By winds. By rivers. By marine currents. By birds. By beasts. By man. }

17. Plants yielding food.

a. Tropical climes.

Rice—Durra—Plantain—Bananas—the Yam—Date-palm—Cocoa-palms—Sago-palms—Bread Fruit Tree—Mandioc.

b. Temperate climes.

Wheat—Rye—Barley—Oats—Indian Corn—Potatoes—Buckwheat.

c. Polar climes—Food of inhabitants.

(In the following, tell 1st, Native of what country; 2d, Cultivated where; 3d, Amounts annually produced; 4th, Anything else you can.)

18. Plants producing sugar.

a. Sugar cane—Sugar maple—Date palm—Beets.

19. Plants producing beverages.

a. Tea—Coffee—Cocoa.

20. Plants producing spices.

a. Vanilla—Pepper—Cinnamon—Nutmegs—Cloves.

21. Plants producing medicine.

a. Peruvian bark—Opium—Rhubarb—Aloes.

22. Plants producing narcotics.

a. Tobacco—Opium—Hemp—Betel-nut—Coca.

23. Plants producing clothing.
    a. Cotton—Flax—Hemp.
24. Plants producing dyes.
    a. Indigo—Woad—Madder—Brazil-wood—Nicaragua-wood—Orchilla—Weld—Quercitron—Fustic—Logwood.
25. Plants producing Oils—Resins—Gums.
    a. Olive—Palm—Cocoanut—Linseed—Hemp—Cotton—Turpentine—Fir-resin—Copal--Gum-Arabic—India-rubber.

SECTION II.

ANIMAL LIFE.

I. *Animals.*

1. Position in scale of existence.
2. Comparison with plants.
3. Fauna and habitat.
4. Effect of heat, moisture, food, light, upon dlfferent regions.
5. Diffusion of animals.
    a. Locomotion—wind—marine currents—agency of man.
6. Classification of animal.
    a. Radiates. *b*. Mollusks. *c*. Articulates. *d*. Vertebrates.

(In the following, give description of each division and sub-division—their habitat—habits.)

7. Vertebrates.
    a. Mammalia
        1. Quadrumana. 2. Carnivora: Cheiroptera—Insectivora. 3. Marsupialia. 4. Rhodentata. 5. Edentata. 6. Pachydermata. 7. Ruminantia. 8. Marine mammalia: Amphibia—Cetacea.

b. Birds.

1. Rapaces. 2. Scansores. 3. Oscines. 4. Gallinacea. 5. Gallatores. 6. Natatores.

Give description of each sub-division, migratory habits. Examples.

c. Reptiles—Differ from batrachians.

1. Saurians. 2. Chelonians. 3. Ophidians.

II. *Ethnography.*

1. Origin of the human race.
2. Diversities of the human race.
   1. Physical qualities. 2. Language. 3. Earliest myths and legends. 4. Historical records.
3. Races of men—Define each and give characteristics.
   a. Caucasian.
      1. Hamitic.
      2. Semitic.
      3. Aryans.
         (*a.*) Celts.
            Irish. Welch. Highland Scotts. Bretons in France.
         (*b.*) Ancient Greeks.
         (*c.*) Ancient Romans.
            Italians, Spaniards, Portuguese, French, (Mixed with German.)
         (*d.*) Germans.
            German, English, Dutch, Flemings, Danes, Swedes, Norwegians.
         (*e.*) Slavonians.
            Russians, Poles, Czechs, Croats.
         (*f.*) Iranians.
            Persians, Belooches, Afghans.
         (*g.*) Brahmanic Indians—Hindoos.
   b. Mongolian.

1. Arctic and Turanian groups.

c. Ethiopian.

1. Negro—Northern and Southern groups.

d. Malay.

1. Malay proper. Polynesian and Negrilo groups.

e. American.

1. Give five general divisions of tribes.

1. Give population of globe, also of the grand disvisions composing it; number of each race.

2. Give history of prominent geographers who have been authors of works on this subject.

3. Give a general history of civilization from the nomadic races to the present time.

ENGLISH GRAMMAR.

OUTLINE OF THE NOUN.

1. *Proper Noun.*
   a. Person. *b.* Place. *c.* People. *d.* Thing.
2. *Common Noun.*
   a. Class. *b.* Collective. *c.* Abstract. *d.* Verbal.
3. *Properties of the Noun.*
   1. Person—First—Second—Third.
      a. Definition—Examples in sentences.
   2. Number—Singular—Plural.
      a. Definition. *b.* Plural formation—regular and irregular—Examples in sentences.
   3. Gender—Masculine—Feminine.
      a. Definition—Examples in sentences.
   4. Case—Nominative—Possessive—Objective.
      a. Definition. *b.* Formation—Singular and Plural Examples in sentences.

OUTLINE OF THE PRONOUN.

1. *Personal Pronoun*—Simple—Compound.
   1. Name them.
   2. Definition.
   3. Antecedent.
   4. How declined.
   5. How parsed.
   6. Examples in sentences.
   7. Use of *mine* and *thine*. Examples.
   8. Use of *thou, thy, thee, thyself,* and *ye*. Examples.
   9. Use of *you* in singular. Examples.

10. Use of *we* for *I*. Examples.
11. Occasional use of *it*. Examples.
12. Use of *he*, *his*, and *him* in third person, singular number, and either gender. Examples.
13. Use of pronouns of different persons in the same sentence. Examples.

2. *Relative Pronoun*---Simple---Compound.
   1. Definition. 2. Names. 3. How declined. 4. How parsed. 5. Examples in sentences.
3. *Interrogative Pronoun.*
   1. Definition. 2. Subsequent. 3. How parsed. 4. Examples in sentences.
4. *Adjective Pronoun.*
   1. When used as a pronoun and when as an adjective. (See Pronominal Adjective.)

OUTLINE OF THE ADJECTIVE.

1. *Descriptive.*
   1. Common—Comparison. 2. Proper. 3. Participial.
2. *Definitive.*
   1. Article.
      a. Definite. *b.* Indefinite.
   2. Pronominal.
      a. Definite. *b.* Indefinite. *c.* Distributive.
   3. Numeral.
      a. Cardinal. *b.* Ordinal. *c.* Multiplicative.

(Define, and give examples in sentences.)

OUTLINE OF THE VERB.

1. *Classification of the Verb.*
   1. As to Use.
      a. Transitive. *b.* Intransitive. *c.* Copulative. *d.* Auxiliary. *e.* Participle—Present—Past—Compound.

2. As to Action.
   a. Active. *b.* Passive. *c.* Neuter.
3. As to Form.
   a. Regular. *b.* Irregular.

(Definition—Formation—Examples in sentences—Participle used as a noun—as an adjective—Examples.)

2. *Properties of the Verb.*
   1. Voice—Active—Passive.
      a. Use. *b.* Passive formation. *c.* Examples in sentences.
   2. Mode—Indicative—Subjunctive—Potential—Imperative—Infinitive.
      a. Use. *b.* Formation. *c.* Examples in sentences.
   3. Tense—Past Perfect—Past—Present Perfect—Present—Future Perfect—Future.
      a. Use. *b.* Formation. *c.* Synopsis of verbs in each mode.
   4. Person—First—Second—Third.
   5. Number—Singular—Plural.

   { 1. How governed. 2. Examples in sentences. 3. Conjugation of Verbs.

3. *Forms of Inflection.*
   Regular—Emphatic—Progressive—Interrogative—Negative—Passive.
      1. Use. 2. Formation. 3. Conjugate *love* in each form. 4. Conjugate other verbs in each form. 5. Notice what tenses are not inflected in all the forms.

OUTLINE OF THE ADVERB.

1. *Definition.*
2. *Comparison.*
3. *Classification.*

1. Adverbs of Time.
2. Adverbs of Place.
3. Adverbs of Cause.
4. Adverbs of Manner.
5. Adverbs of Degree.
6. Adverbs of Connection.

1. Use.
2. How parsed.
3. Examples in sentences.

OUTLINE OF THE PREPOSITION.

1. *Definition.*
2. *List of Prepositions.*
3. *Examples in sentences.*

OUTLINE OF THE CONJUNCTION.

1. *Definition.*
2. *Classification.*

1. Copulative.
2. Disjunctive.
3. Correlative.

1. Use.
2. How parsed.
3. Examples in sentences.

OUTLINE OF THE INTERJECTION.

1. Definition.
2. How parsed.
3. List of principal interjections.
4. Examples in sentences.

OUTLINE OF THE SENTENCE.

1. *Phrase.*
   1. Definition. 2. Kinds. 3. Examples.
2. *Propositions.*
   1. Principal. 2. Subordinate. 3. Coördinate.
   (Definition and examples.)
3. *Members.*
   (Definition and examples.)

4. *Connectives.*

1. Coördinate. 2. Subordinate.

(Use—What part of speech—Examples.)

5. *Sentence.*

1. Simple. 2. Complex. 3. Compound.

a. Declarative. *b.* Interrogative. *c.* Imperative. *d.* Exclamatory.

(Define and give examples.)

6. *Elements of the Sentence.*

1. Principal.	Subject.	Simple.	1. Definition.
			2. May be what.
		Complex.	3. Position in the sentence.
	Predicate.		
		Compound.	4. Examples.

2. Subordinate.

a. Adjective. *b.* Adverbial. *c.* Objective.

1. Kind. { Simple. Complex. Compound.

2. Class. { First. Second. Third.

(Give definition and examples.)

3. Independent.

(Definition and examples.)

ORDER OF ANALYZING A SENTENCE.

1. Tell whether *declarative*, *interrogative*, *imperative*, or *exclamatory*.
2. If *compound*, tell how many members it contains and analyze each member, beginning with the first.
3. If *complex*, tell how many propositions it contains, and name the principal proposition and the subordinate proposition. Analze each proposition (the principal first) in the same order as simple sentences are analyzed.

4. If *simple*,

1. Name the simple subject.
2. Name the simple predicate.
3. Name each modifier of the simple subject, tell whether simple, complex, or compound, and of what class. Also, analyze the modifiers when complex or when of the third class.
4. Analyze the complete predicate in the same manner as the complete subject was analyzed.

MODEL FOR ANALYZING SENTENCES.

"On that same night the Banshee howled
To fright the evil dame,
And fairy folks, who loved Kathleen,
With funeral torches came."—*Whittier.*

ANALYSIS.—This is a compound declara tive sentence consisting of two members.

The first member—

"On that same night the Banshee howled
To fright the evil dame,"

is a simple sentence; and the second member—

"And fairy folks, who loved Kathleen,
With funeral torches came,"

is a complex sentence consisting of two propositions, of which the principal proposition is "And fairy folks with funeral torches came;" and the subordinate pr oposition is "who loved Kathleen."

Of the first member "Banshee" is the simple subject and "howled" the simple predicate.

The simple subject is modified by "the," a simple adjective element of the first class.

The simple predicate is modified by "On that same night," a complex adverbial element of the second class, of which "On" is the leader and "night" the subsequent. The subsequent is

modified by "that" and "same," simple adjective elements of the first class. The simple predicate is further modified by "to fright the evil dame," a complex adverbial element of the second class, of which "to fright" is the basis, modified by "the evil dame," a complex objective element of the first class, of which "dame" is the basis, modified by "the" and "evil," simple adjective elements of the first class.

Of the second member "folks" is the simple subject of the principal proposition and "came" is the simple predicate.

The simple subject is modified by "fairy," a simple adjective element of the first class; also by the subordinate proposition, "who loved Kathleen," a complex adjective element of the third class, of which "who" is the simple subject, and "loved" the simple predicate. The simple subject of the subordinate proposition is unmodified. The simple predicate is modified by "Kathleen," a simple objective element of the first class.

The simple predicate ("came") of the second member is modified by "with funeral torches," a complex adverbial element of the second class, of which "with" is the leader and torches the subsequent. The subsequent is modified by "funeral," a simple adjective element of the first class.

"And" is a coördinate connective.

ORDER OF PARSING THE PARTS OF SPEECH.

1. *Noun*—Why?
   1. Kind—Why? 2. Gender—Why? 3. Person—Why? 4. Number—Why? 5. Case and Government—Why? 6. Rule.
2. *Pronoun*—Why?
   1. Kind—Why? 2. Antecedent or Subsequent. 3. Rule of agreement. 4. Gender—Why? 5. Person—Why? 6. Number—Why? 7. Case and Government—Why? 8. Rule.

3. *Verb*—Why?
   1. Principal Parts. 2. Form—Why? 3. Use—Transitive, Intransitive, or Copulative—Why? 4. Voice—Why? 5. Mood—Why? 6. Tense—Why? 7. Person—Why? 8. Number—Why? 9. Agreement. 10. Rule.
4. *Adjective*—Why?
   1. Kind—Why? 2. Comparison. 3. Office—Describes or limits. 4. Rule.
5. *Adverb*—Why?
   1. Comparison. 2. Modifies. 3. Rule.
6. *Preposition*—Why?
   1. Office—Shows relation between. 2. Rule.
7. *Conjunction*—Why?
   1. Kind. 2. Office—Connects. 3. Rule.
8. *Interjection*—Why?
   1. Rule.
9. *Participle* (Given as a part of the verb)—Why?
   1. Derivation (Give principal parts of the verb from which derived.) 2. Kind. 3. Form (Active or passive.) 4. Belongs to what. 5. Rule.

OUTLINE FOR

PENMANSHIP.

SIGNALS.

For Opening.

1. Attention.
2. Pass books.
3. Position.
4. Open books.
5. Open inkstands.
6. Take pens.

(Drill in movements and in tracing the copy without ink.

7. Take ink.
8. Write.

For Closing.

1. Attention.
2. Use blotters.
3. Close books.
4. Pass books.
5. Wipe and put away pens.
6. Close inkstands.

POSITION.

1. Of the body.
2. Of the feet.
3. Of the arms.
4. Of the hands.
5. Of the wrists.
6. Of the fingers.
7. Of the pen.

} Describe the different positions that are allowable and insist upon some uniform position for the entire class.

MOVEMENTS.

1. Finger movement.
2. Fore-arm movevment.
3. Combined movement.
4. Whole arm movement.

} 1. Definition. 2. When used.

FORM.

1. Main slant.
2. Connective slant.
   1. At what angle.
   2. When used.
   3. Why so called.

3. Strokes.
   1. Definitions.
   2. How combined.
      1. Angularly.
      2. By short turns.
      3. By oval turns.
      4. By loops.

(Give examples.)

4. Space.
   - Define as applied to penmanship.
   - Its use in writing.
     - For measuring height of letter.
     - For measuring width of letter.

Principles.
1. Straight line.
2. Right curve.
3. Left curve.
4. Extended loop.
5. Direct oval.
6. Reversed oval.
7. Capital stem.

Each principle: 1. How made. 2. Slant. 3. When used. 4. Examples.

Letters.

1. Small.
   - Short.
   - Semi-extended.
   - Looped.
2. Capital.
   - Direct oval.
   - Reversed oval.
   - Capital stem.

Each letter: 1. Height. 2. Names. 3. Exceptional cases. 4. Examples. 5. Measure. 6. Analysis. 7. Formation.

MODEL FOR MEASURING, ANALYZING, AND FORMING LETTERS.

(Illustrated by the letter *W.*)

Measuring—Height one space; whole width, three spaces; distance between straight lines, one space; distance from straight line to dot, one-half space; length of horizontal curve, one-half space.

Analysis—Principles 2, 1, 2, 1, 2, horizontal 2.

Formation—Begin on base line and ascend with a right curve, on connective slant one space; unite angularly and descend with a straight line on main slant to base; by short turn ascend with a right curve on connective slant one space; unite angularly and descend with a straight line on main slant to base; by short turn ascend one space with a right curve on a slant midway between connective and main slants; make a light dot and finish with a horizontal right curve carried one half space to the right.

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